

New Perspectives in Tobacco Control:

Accelerating Our Progress



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Community Health Promotion Summit: “Committing to End the Tobacco Epidemic”
Hutchinson, Kansas, Cosmosphere and Space Center
January 28, 2016

National Center for Chronic Disease Prevention and Promotion
Office on Smoking and Health



Overview

1

Health and Economic Burden of Tobacco Use

2

Evidence Based Strategies for Tobacco Prevention and Control

3

Considerations and Conclusions

1

Health and Economic Burden of Tobacco Use

“The century-long epidemic of cigarette smoking has caused an enormous avoidable public health tragedy”

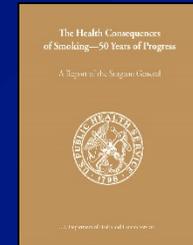


1964



2014

50 Years of Death



MAJOR CONCLUSION #1

“The century-long epidemic of cigarette smoking has caused an enormous avoidable public health tragedy. Since the first Surgeon General’s report in 1964 more than 20 million premature deaths can be attributed to cigarette smoking.”

- **Since 1964, over 20 million Americans died because of smoking, including:**

2.5 million nonsmokers

108,000 babies

86,000 residential fires

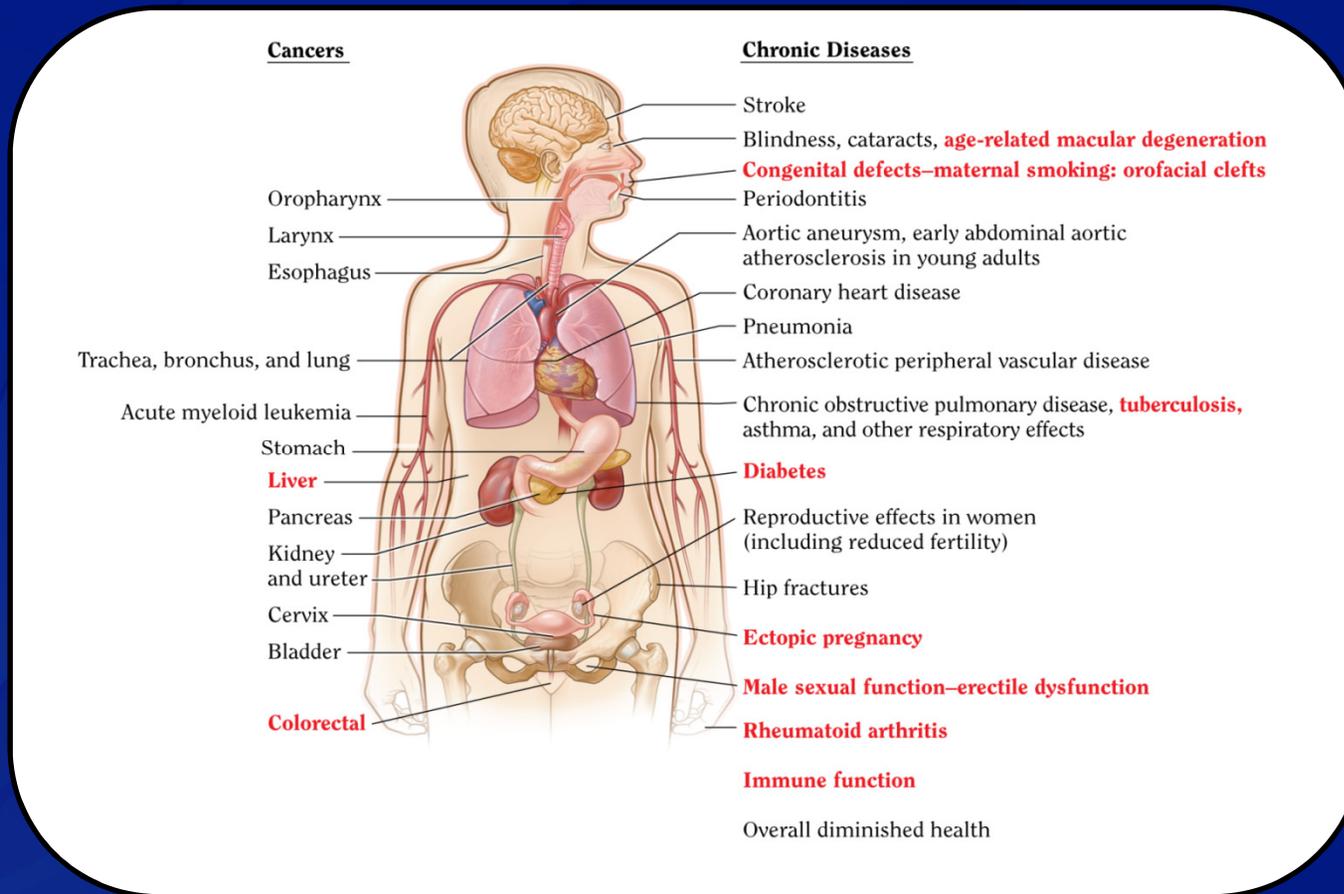
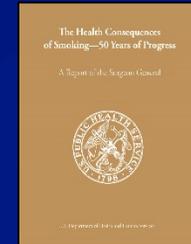
6.58 million from cancers

7.8 million from CVD & metabolic diseases

3.8 million from pulmonary diseases

MAJOR CONCLUSION #3

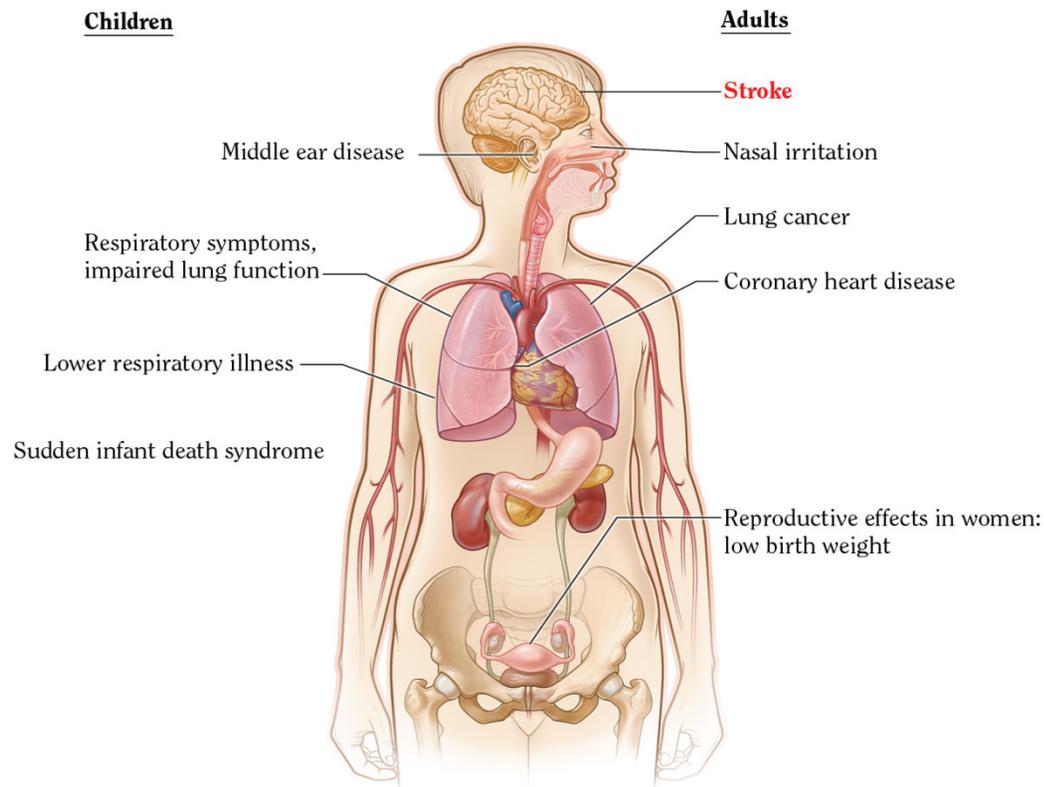
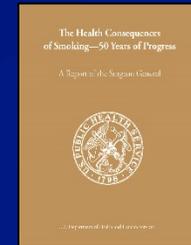
“Even 50 years after the first Surgeon General’s Report, research continues to newly identify diseases caused by smoking, including such common diseases as diabetes mellitus, rheumatoid arthritis, and colorectal cancer.”



Source: US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, CDC; 2014.

MAJOR CONCLUSION #4

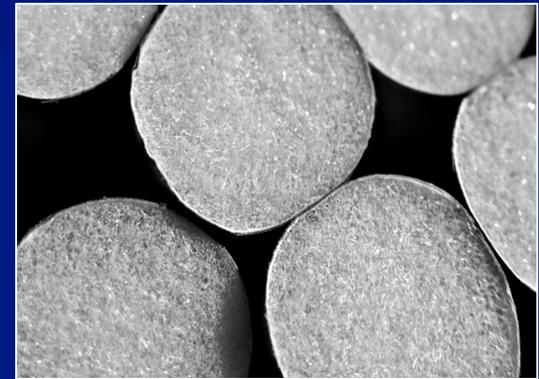
“ Exposure to secondhand tobacco smoke has been causally linked to cancer, respiratory, and cardiovascular diseases, and to adverse effects on the health of infants and children.”



Source: US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, CDC; 2014.

Lung Cancer Risks Increasing

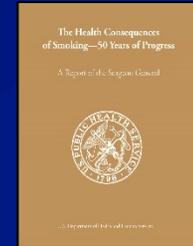
- Between 1959-2010 cigarette consumption declined, but lung cancer risks:
 - Doubled for male smokers
 - Increased 10x for female smokers
 - Did not change for nonsmokers



Possible contributing factors:

- Ventilated filters
- Increased levels of chemicals

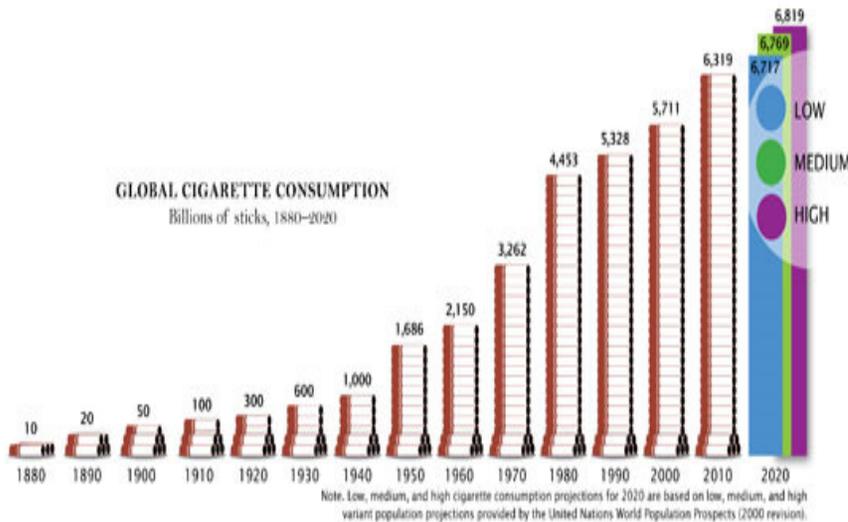
Smoking Costs Us More



- ❑ Annual deaths attributable to smoking, adults 35+: **>480,000**
- ❑ Annual costs attributable to smoking: **Now >\$289 billion**
 - **>\$130 billion** for direct medical care of adults
 - **>\$150 billion** for lost productivity due to premature death
- ❑ More than **16 million** people have ≥ 1 smoking-related disease

Source: US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, CDC; 2014.

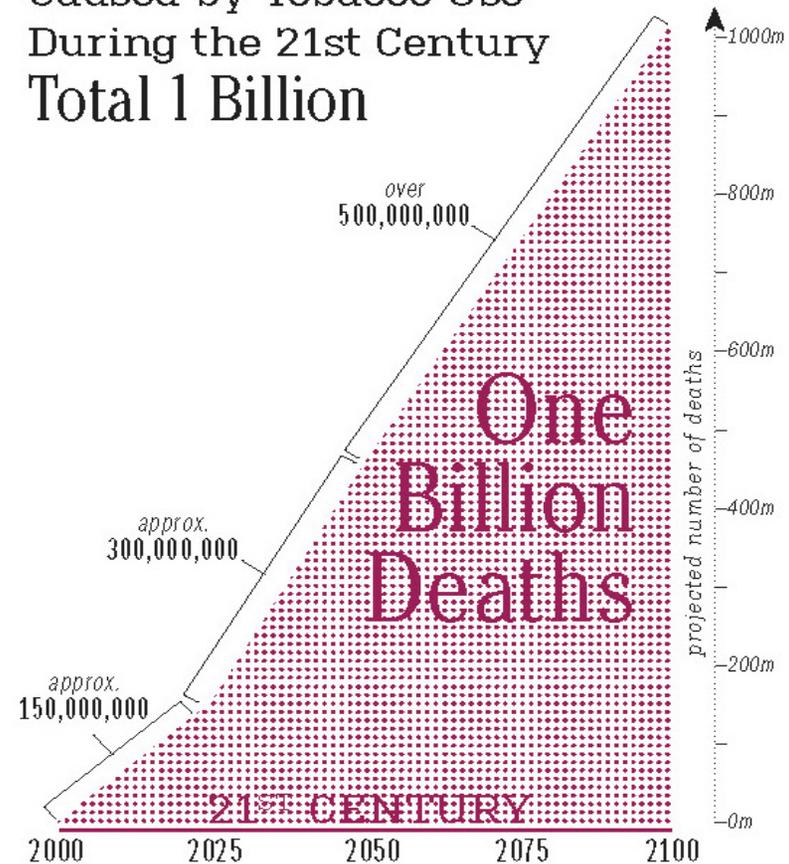
The Tobacco Pandemic



**Number of Smokers
Worldwide:**

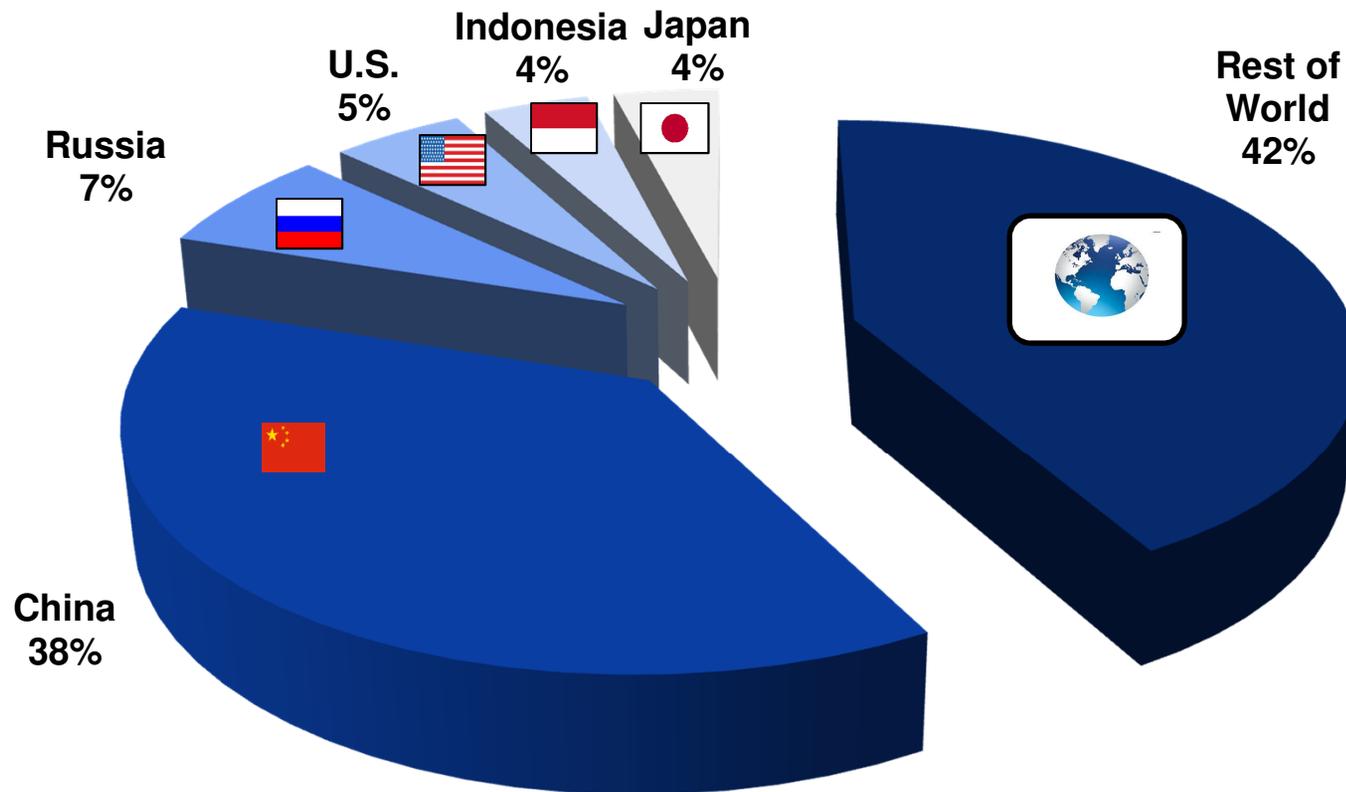
1.4 → 1.6 Billion by 2030

**Projected Deaths
Caused by Tobacco Use
During the 21st Century
Total 1 Billion**

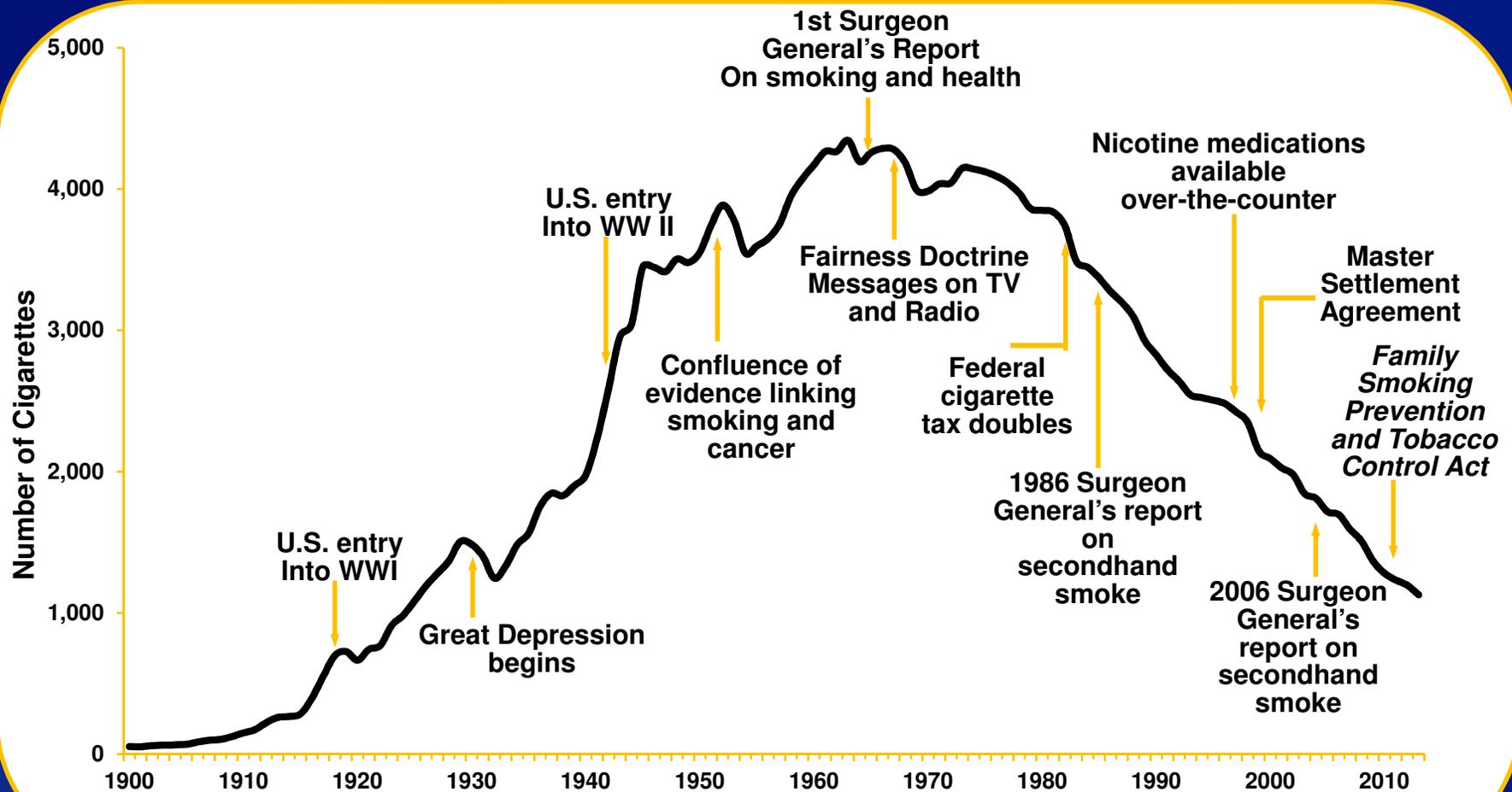


Nearly 2/3 of the World's Smokers Live in Just 5 Countries

Percent of Cigarette Consumption



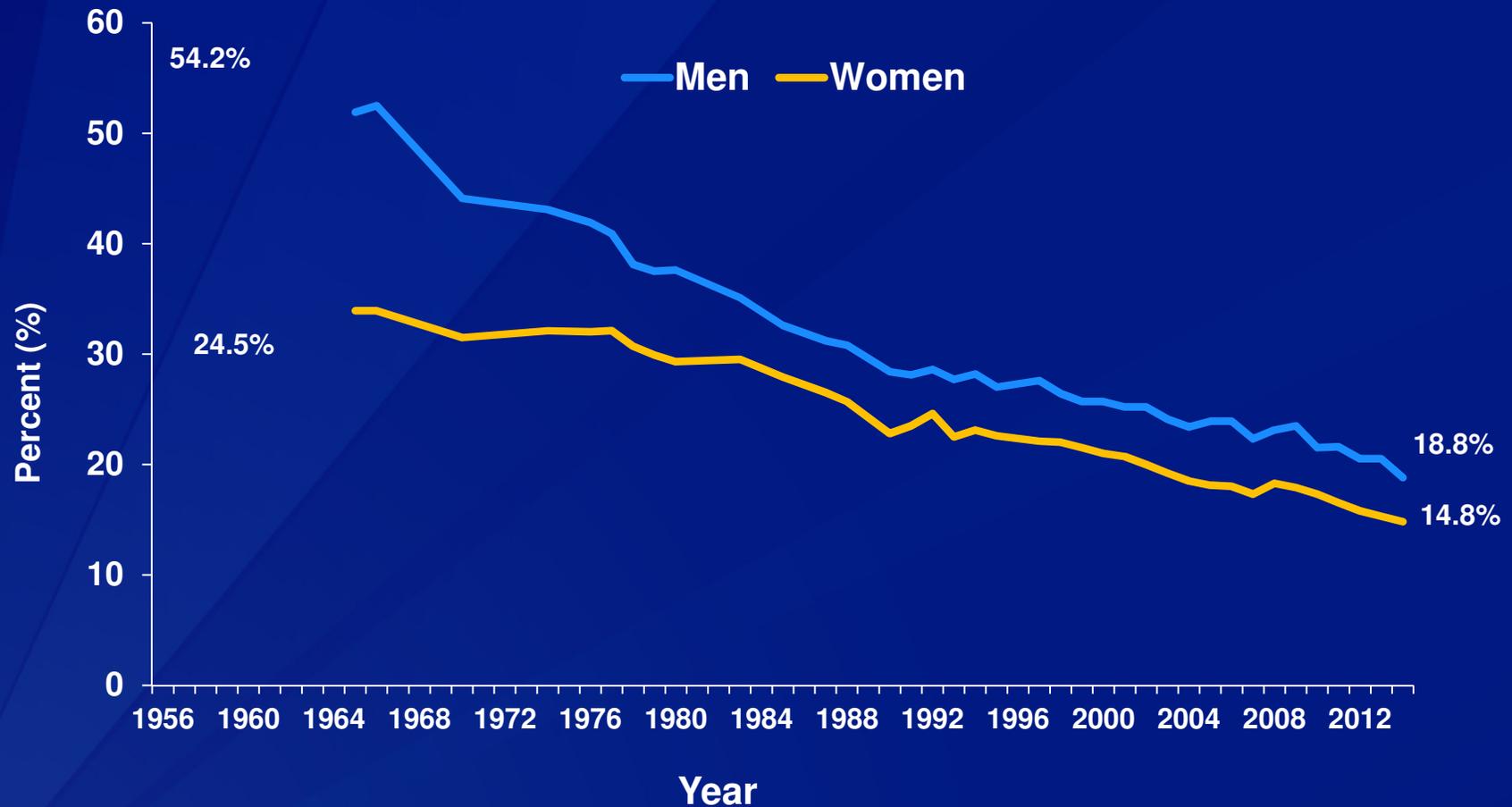
Adult Per Capita Cigarette Consumption and Major Smoking-and-Health Events—United States, 1900-2013



Sources: Adapted from Warner 1985 with permission from Massachusetts Medical Society, ©1985; U.S. Department of Health and Human Services 1989; Creek et al. 1994; U.S. Department of Agriculture 2000; U.S. Census Bureau 2013; U.S. Department of the Treasury 2013.

*Adults ≥18 years of age as reported annually by the Census Bureau.

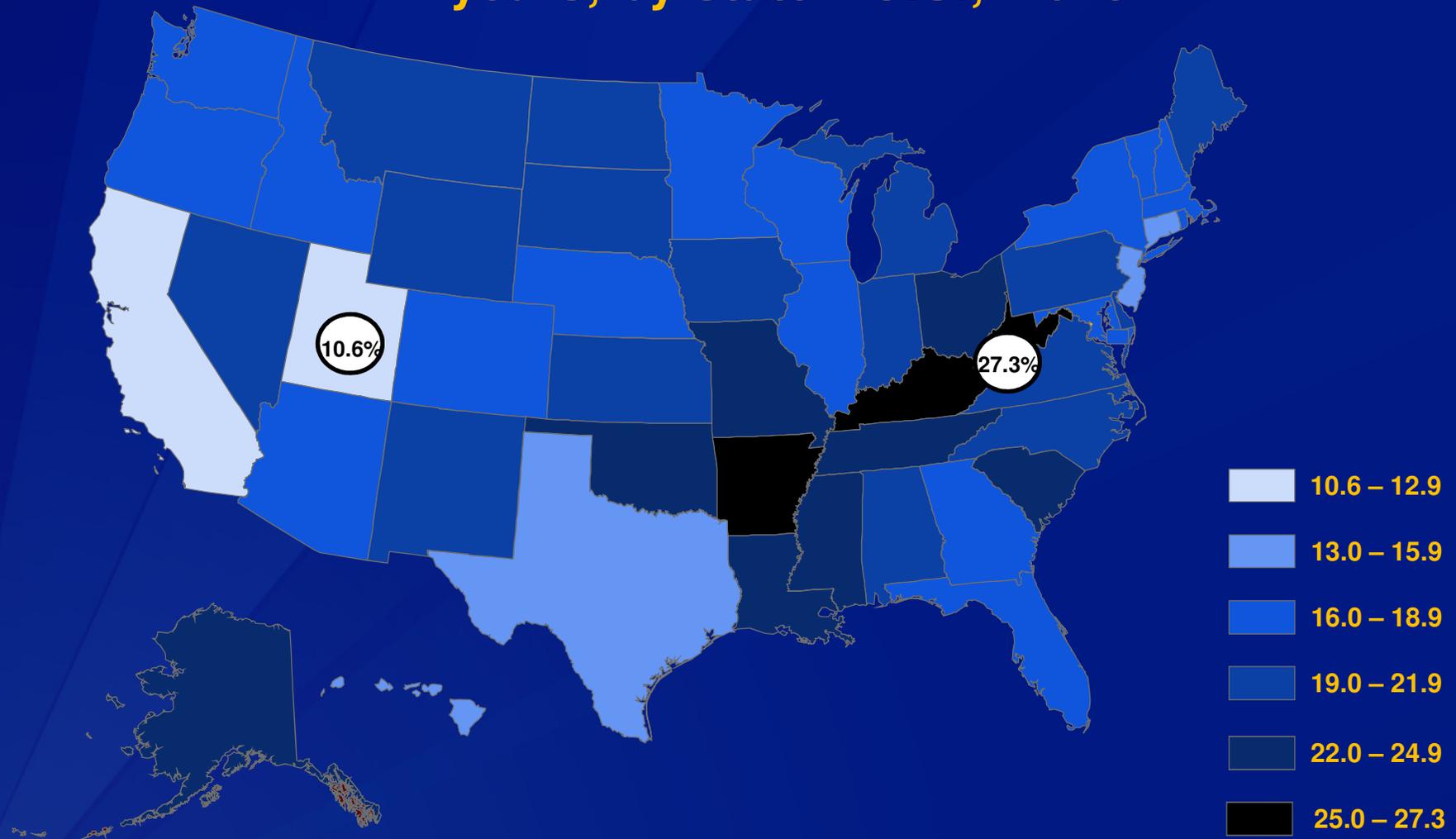
Current cigarette smoking among adults aged ≥ 18 years, by gender—U.S., 1955-2014



Note: Estimates since 1992 include some-day smoking.

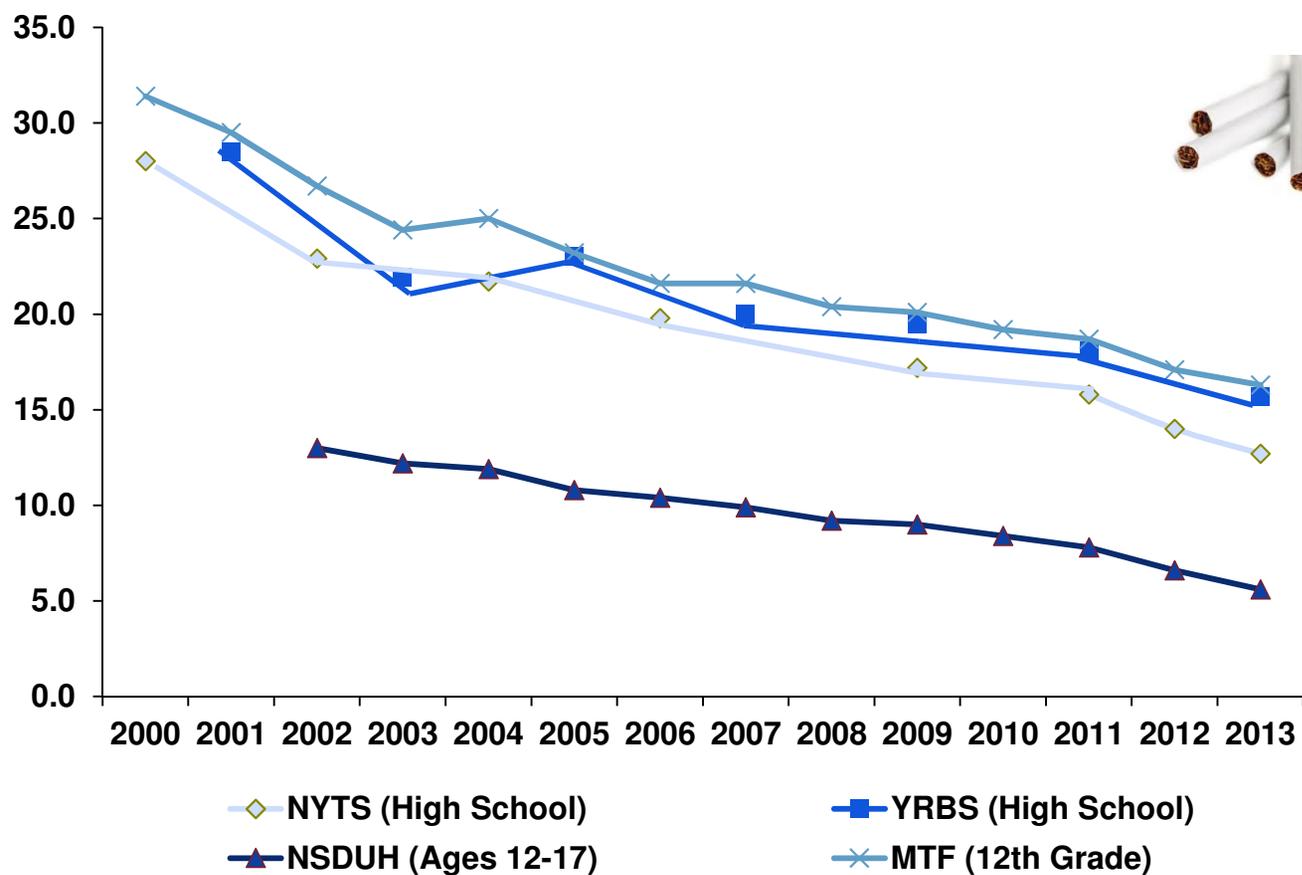
Sources: 1955 data from Current Population Survey (CPS); 1965-2011 data from National Health Interview Survey (NHIS)

Current cigarette smoking* among adults aged ≥ 18 years, by state—U.S., 2013



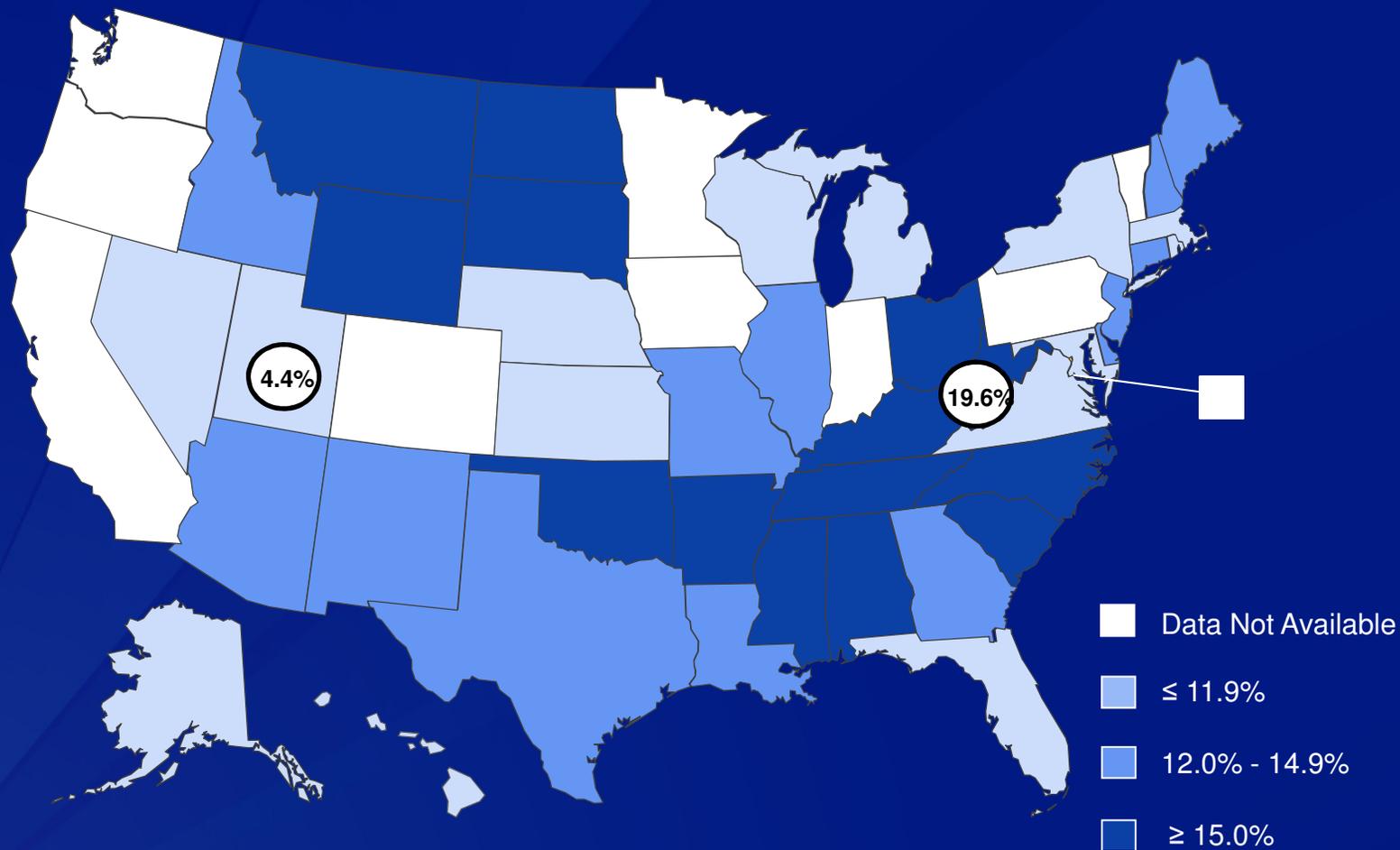
* Persons who have smoked at least 100 cigarettes in lifetime and currently report smoking every day or some days.
Source: Behavioral Risk Factor Surveillance System (BRFSS)

Past 30 Day Cigarette Smoking Among U.S. Youth, 2000-2013



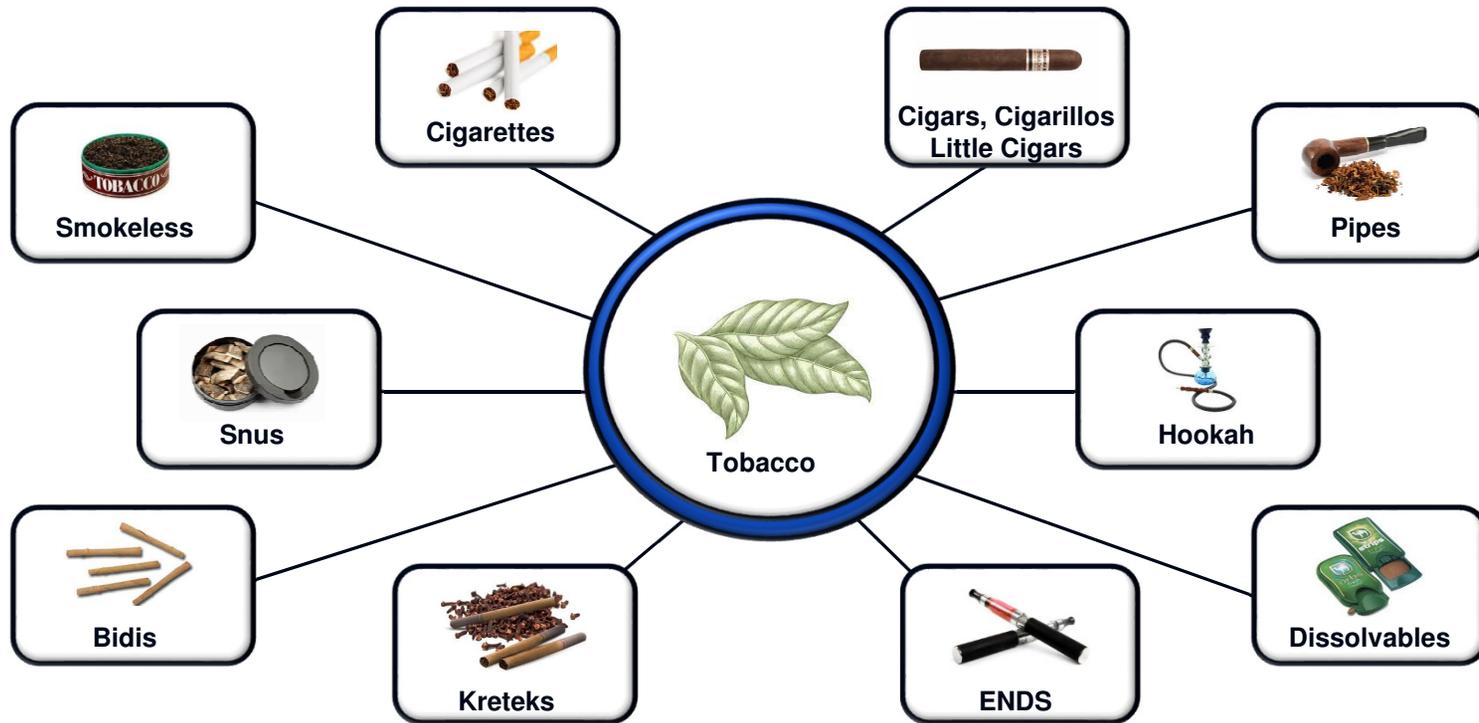
Source: National Youth Tobacco Survey, Youth Risk Behavior Surveillance System, National Survey on Drug Use and Health, Monitoring the Future Survey.

Past 30 Day Cigarette Smoking Among High School Students – United States, 2013



Source: CDC. Youth Risk Behavior Surveillance System (YRBSS).

Tobacco Products



Flavored Little Cigars



Cigar Images Courtesy of Legacy®

What's the Difference?

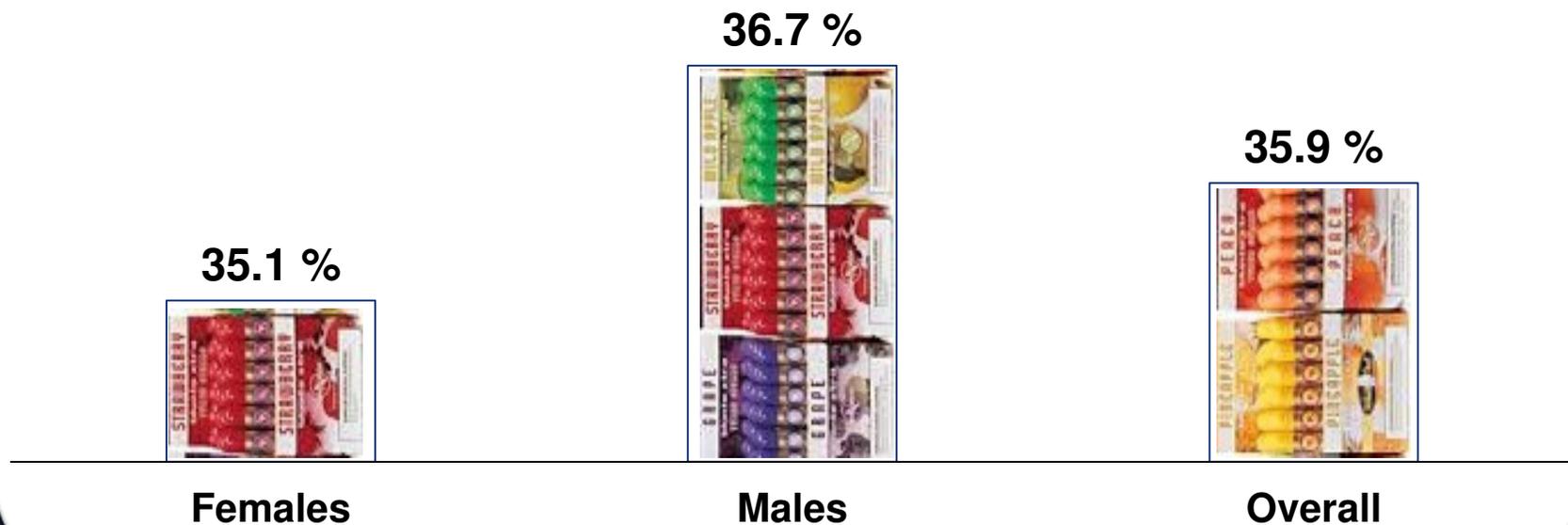


“Cigarettes in Disguise”



Flavored Little Cigar Use Among Youth

Use of Flavored Little Cigars Among Past 30 Day Cigar Smokers, U.S. Middle and High School Students, 2011.



Source: King BA et al Flavored Little Cigar and Flavored Cigarette Use among U.S. middle and High School Students, 2011. *Journal of Adolescent Health*. 2014; 54:40-46.

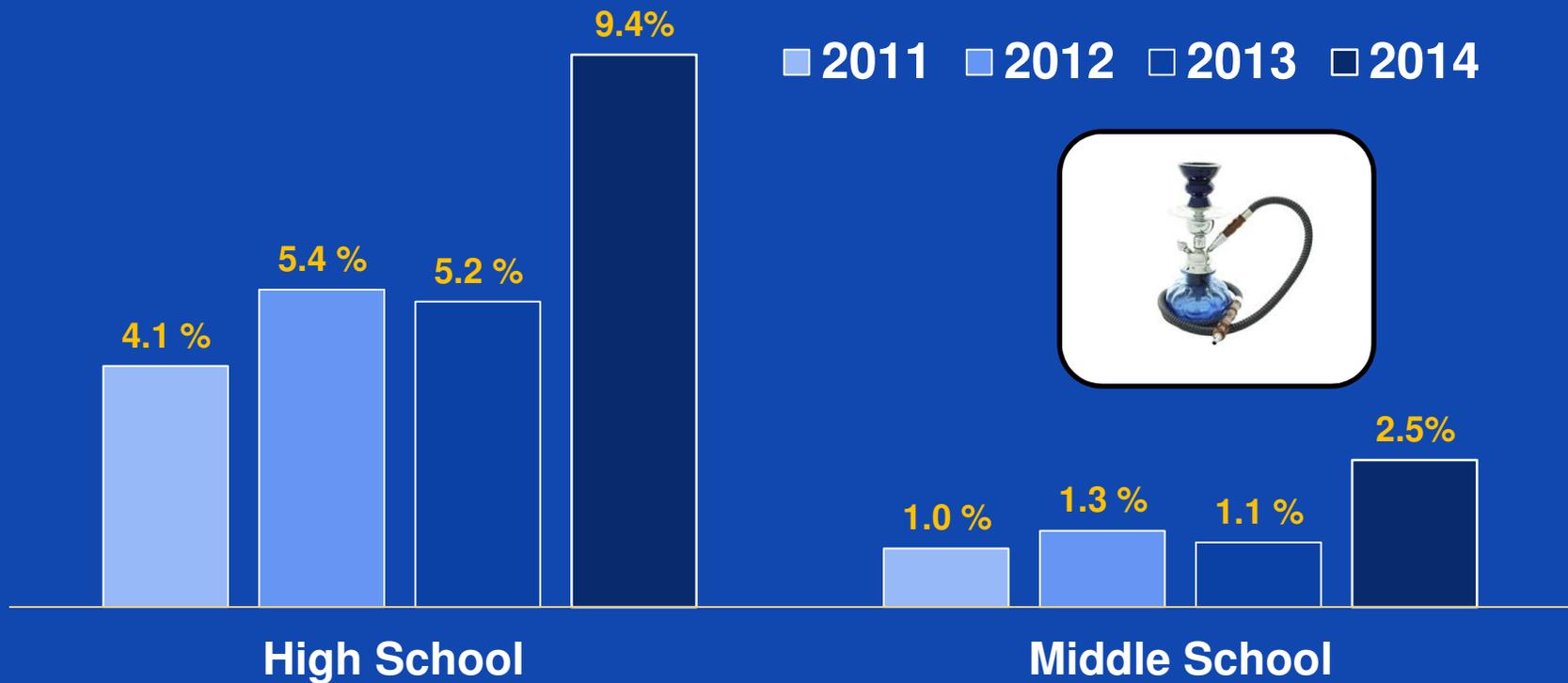
Hookahs (Water Pipes)

- Also called narghile, argileh, shisha, hubble-bubble, and goza
- Typically used in groups, with the same mouthpiece passed from person to person
- Available in different flavors, such as apple, mint, cherry, chocolate, and watermelon
- Hookah bars commonly exempted from smoke-free laws



Source: www.discoverhookah.com

Past 30 Day Use of Hookah among U.S. Middle and High School Students, 2011-2014



Source: Centers for Disease Control and Prevention. National Youth Tobacco Survey, 2011-2013.

Electronic Nicotine Delivery Systems (ENDS)



E-Cigarettes

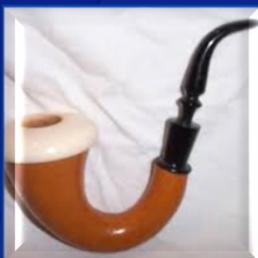


Hookah Pens

E-Cigars



Vape Pens



E-Pipes



E-Hookahs

At least 450 Brands

2014 Surgeon General's Report: ENDS

- ❑ **Could have negative and positive individual and population health impact**

“This shift in patterns of tobacco use could have a number of potential impacts, ranging from the positive effect of accelerating the rate at which smokers quit smoking cigarettes completely to a negative effect of slowing down the decrease in the use of all tobacco products, especially cigarettes”



Chapter 15, Page 859

ENDS Potential for Harm if:



Leads to initiation of combustible tobacco use among non-smokers, particularly children



Leads to relapse among former smokers



Diminishes the chances that a smoker will quit



Discourages smokers from using proven quit methods



Exposes children, pregnant women, and non-users to secondhand aerosol



Glamorizes or renormalizes tobacco use



Results in poisonings among users or non-users



Is there a potential benefit for ENDS?

Only under certain circumstances



Complete long term substitution by established smokers

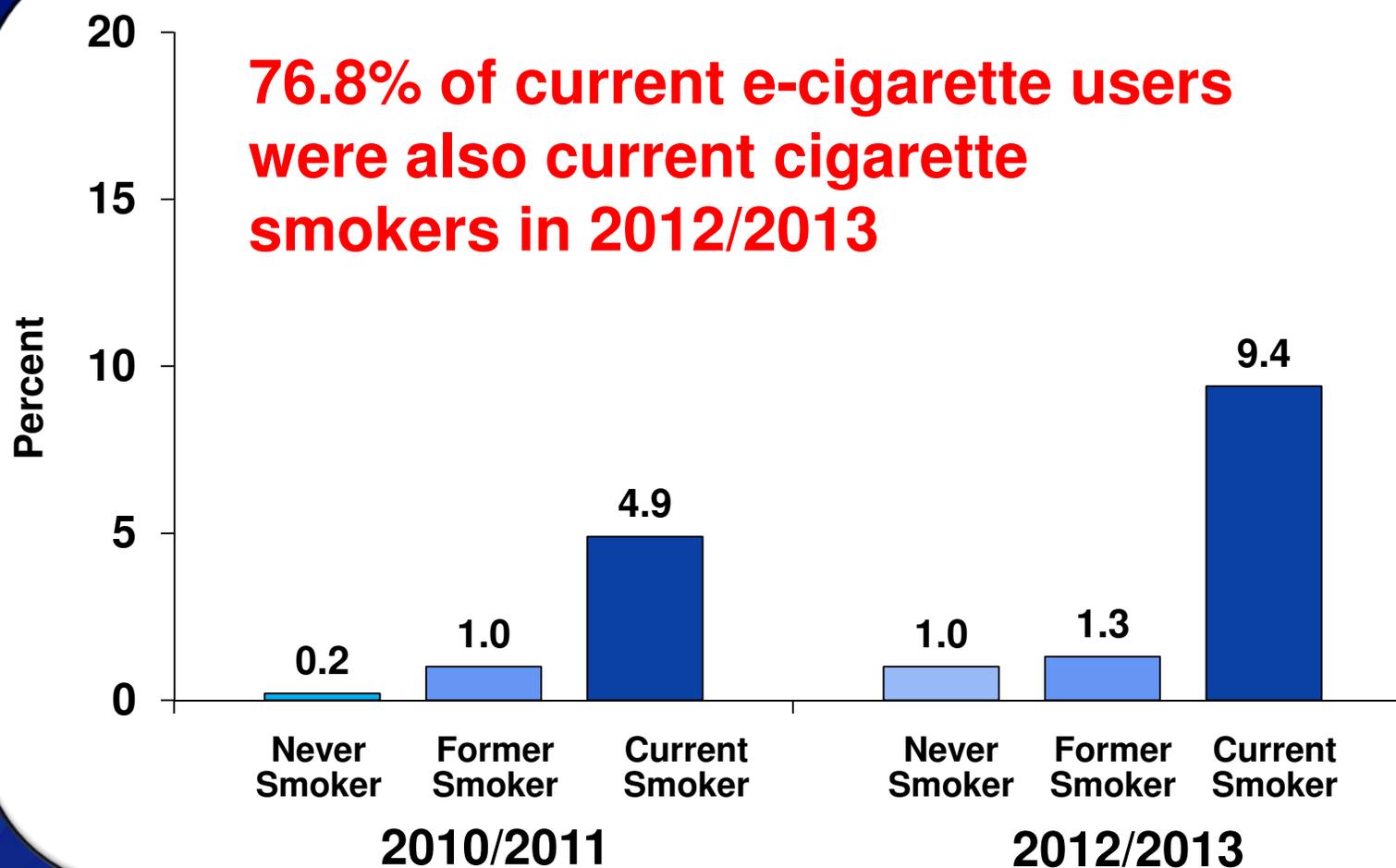


Assist in rapid transition to a society with little or no use of combustible products



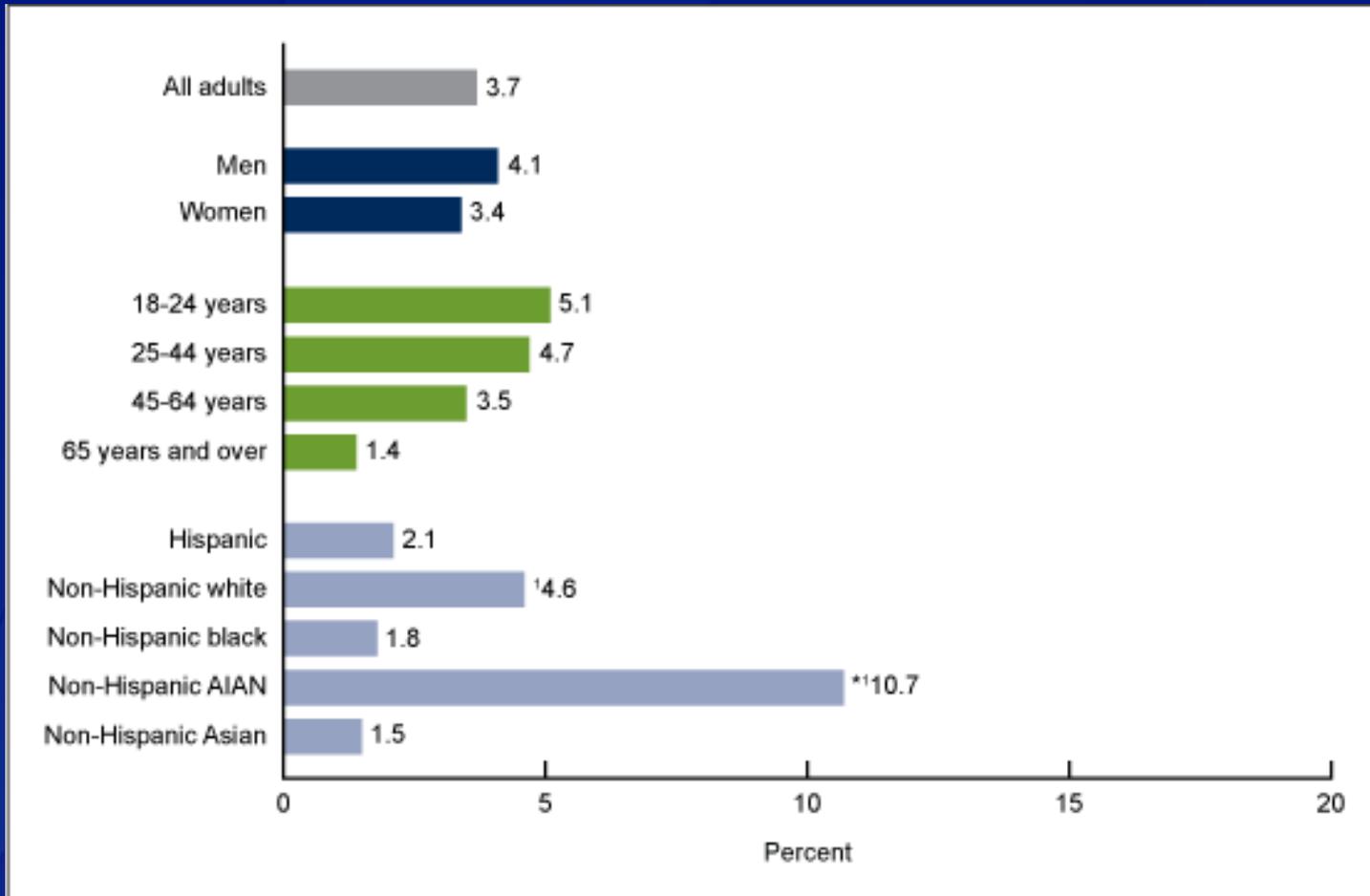
Short-term use if shown to produce successful and permanent cessation of combustible products

Past 30 day use of e-cigarettes among U.S. adults, by cigarette smoking status – Styles, 2010/2011 & 2012/2013



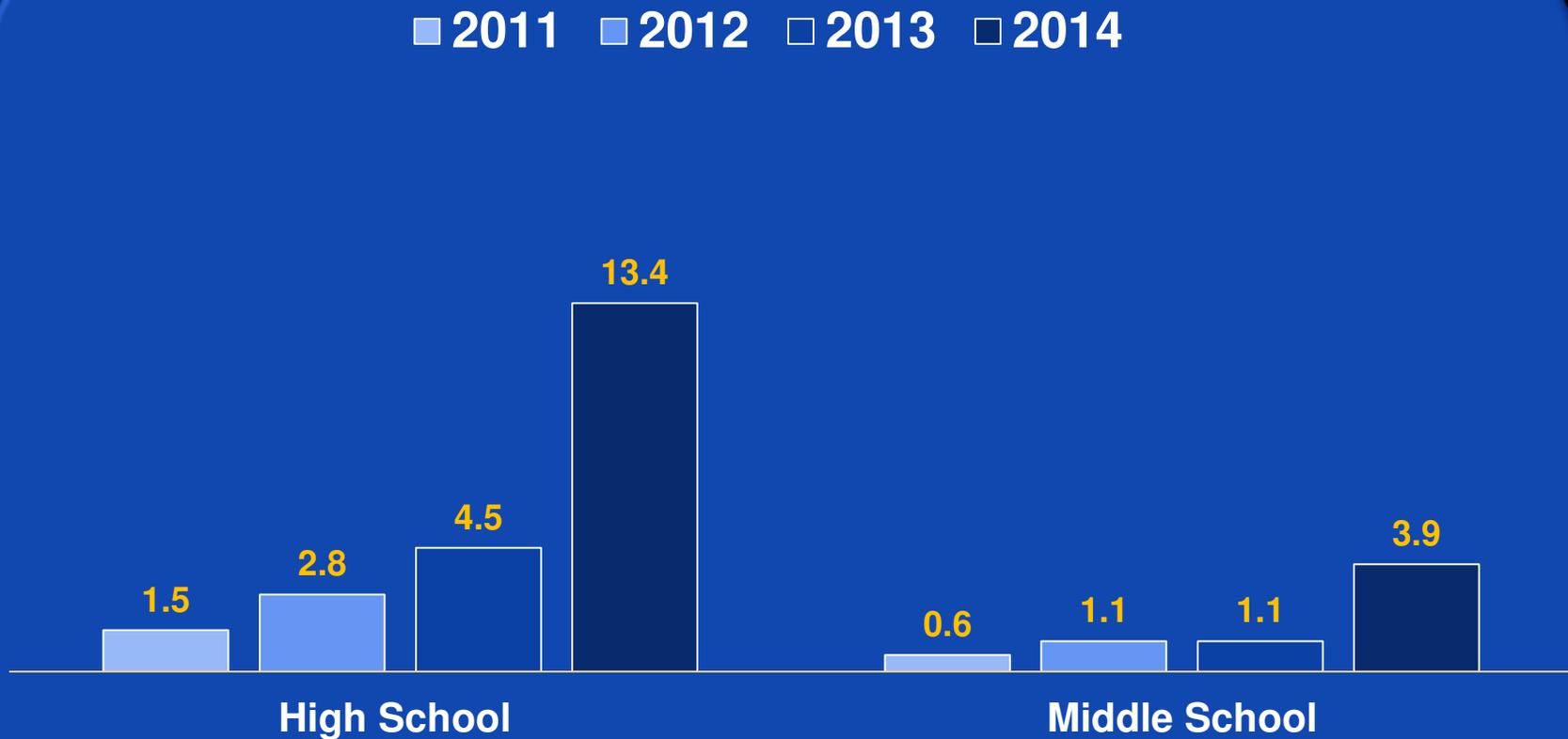
Source: King, Patel, Nguyen, and Dube. Trends in Awareness and Use of Electronic Cigarettes among U.S. Adults, 2010-2013 *Nicotine Tob Res* ntu191 first published online September 19, 2014 doi:10.1093/ntr/ntu191

Percentage of U.S. adults who currently use e-cigarettes, by sex, age, and race/ethnicity, 2014



Source: CDC/NCHS, National Health Interview Survey, 2014. <http://www.cdc.gov/nchs/data/databriefs/db217.htm>

Current (Past 30 Day) Use of E-cigarettes among U.S. Middle and High School Students, 2011-2014



Source: Centers for Disease Control and Prevention & U.S. Food and Drug Administration. National Youth Tobacco Survey.

2

**Evidence Based Strategies for
Tobacco Prevention and Control**

Changing the Cost-Benefit Calculus

- Tobacco easily accessible
- Smoking in public legal
- Unfettered advertising
- Poor access to cessation help
- Cigarettes designed to addict

Individual

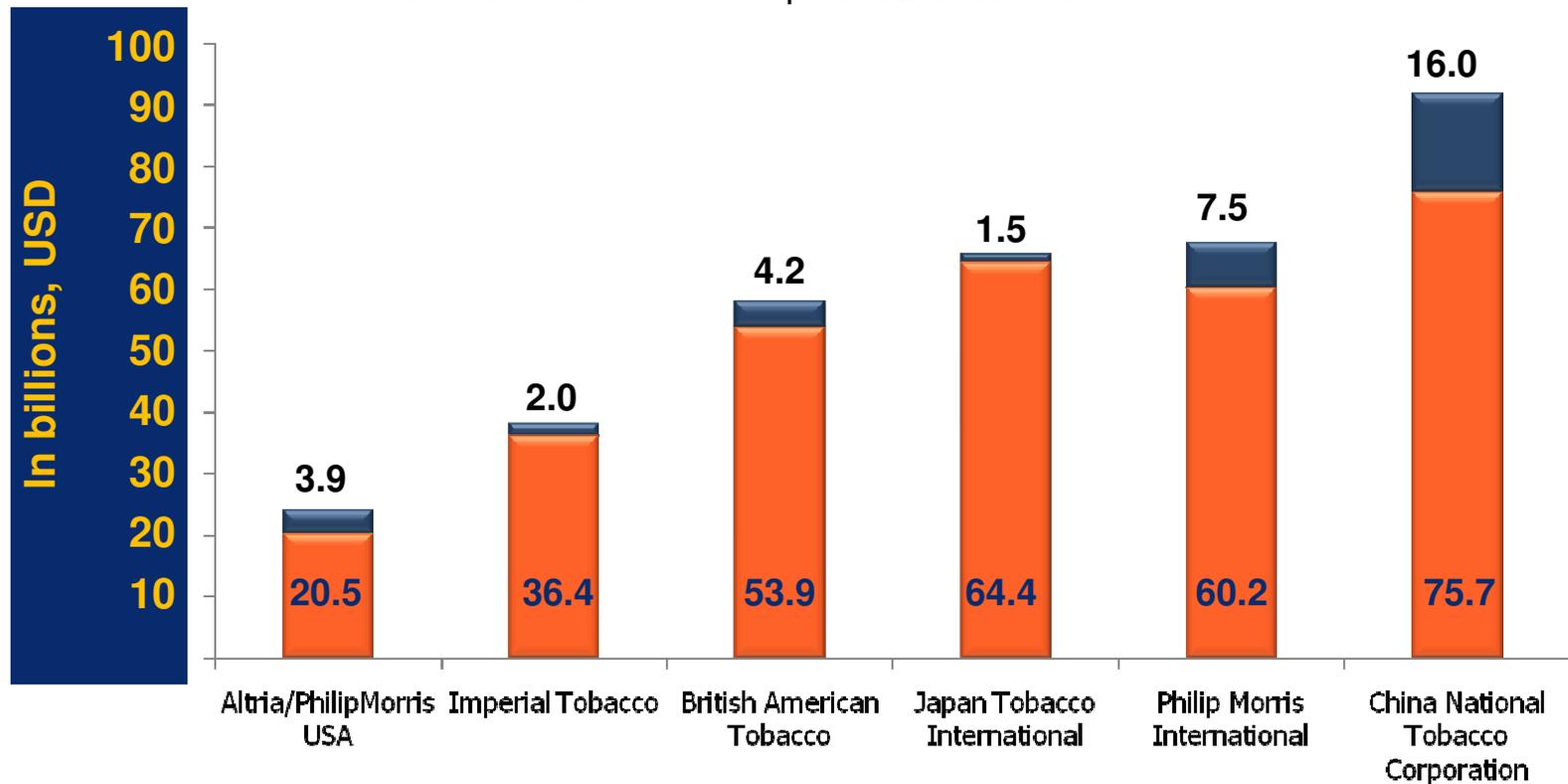


Tobacco
Addiction

Society

Tobacco Company Revenue & Profits Top 6 Companies, 2010

Total profit \$ 35.1 billion
Total revenue \$346.2 billion



Changing the Cost-Benefit Calculus

Individual



Tobacco
Addiction

Society

- Tobacco more expensive and less accessible
- Smoke-free policies
- Counter-marketing and promotion restrictions
- Easy access to help
- Cigarettes made less addictive

The logo for 'mpower' is displayed in a bold, black, lowercase sans-serif font. The letter 'm' is stylized with a grey sphere partially overlapping its left side. To the right of the text is a large yellow circle with a grey sphere partially overlapping its top-left edge. The background is a solid blue color with several other grey spheres scattered around.

mpower

Monitor tobacco use
and prevention policies

Protect people from
tobacco smoke

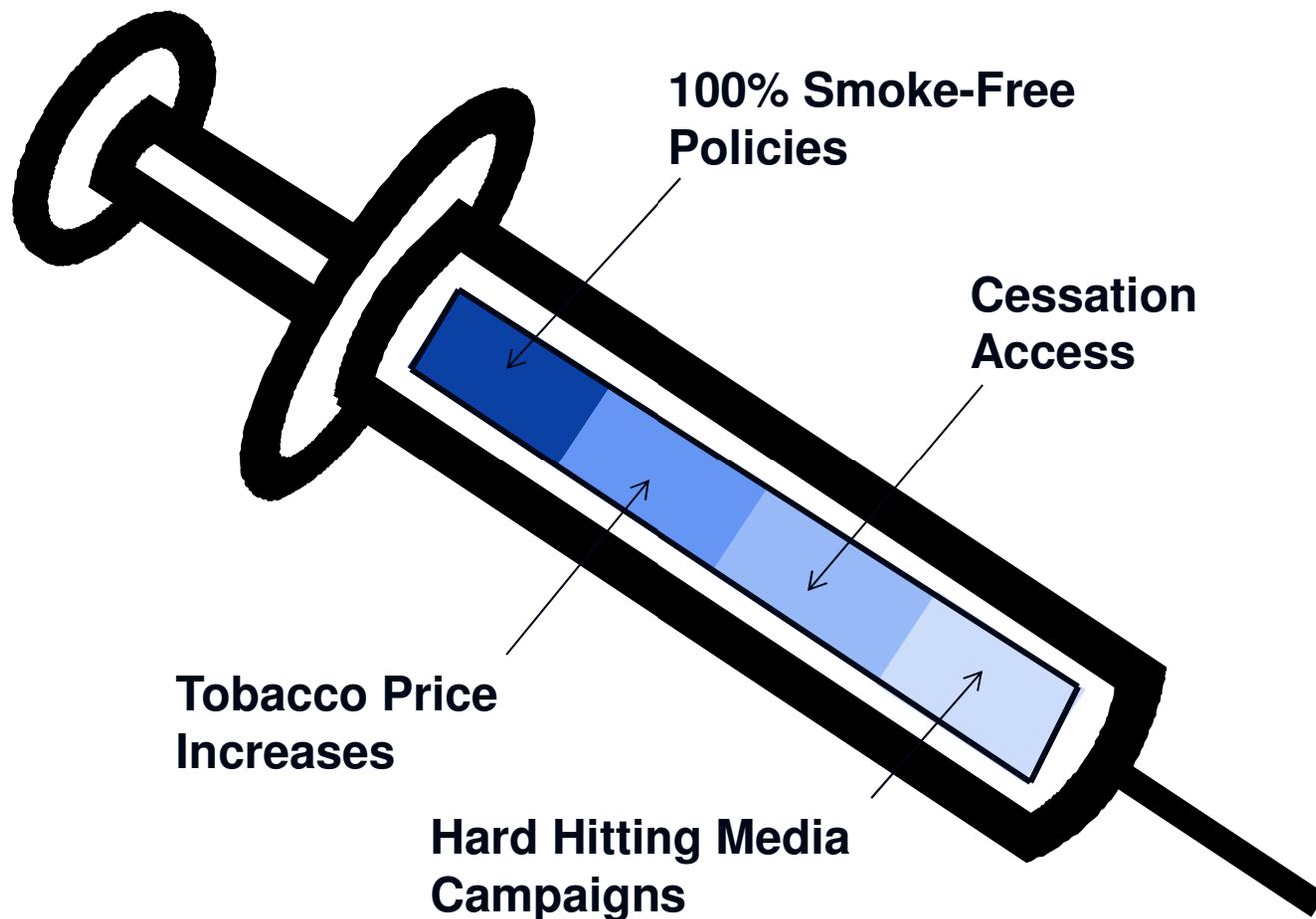
Offer help to quit
tobacco use

Warn about the dangers
of tobacco

Enforce bans on tobacco
advertising, promotion and sponsorship

Raise taxes on tobacco

Evidence-Based Tobacco Prevention and Control Interventions



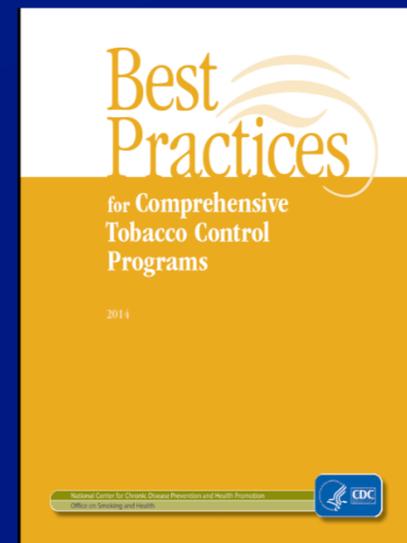
Source: Centers for Disease Control and Prevention. *Best Practices for Comprehensive Tobacco Control Programs*. 2014.

Tobacco Control Works:

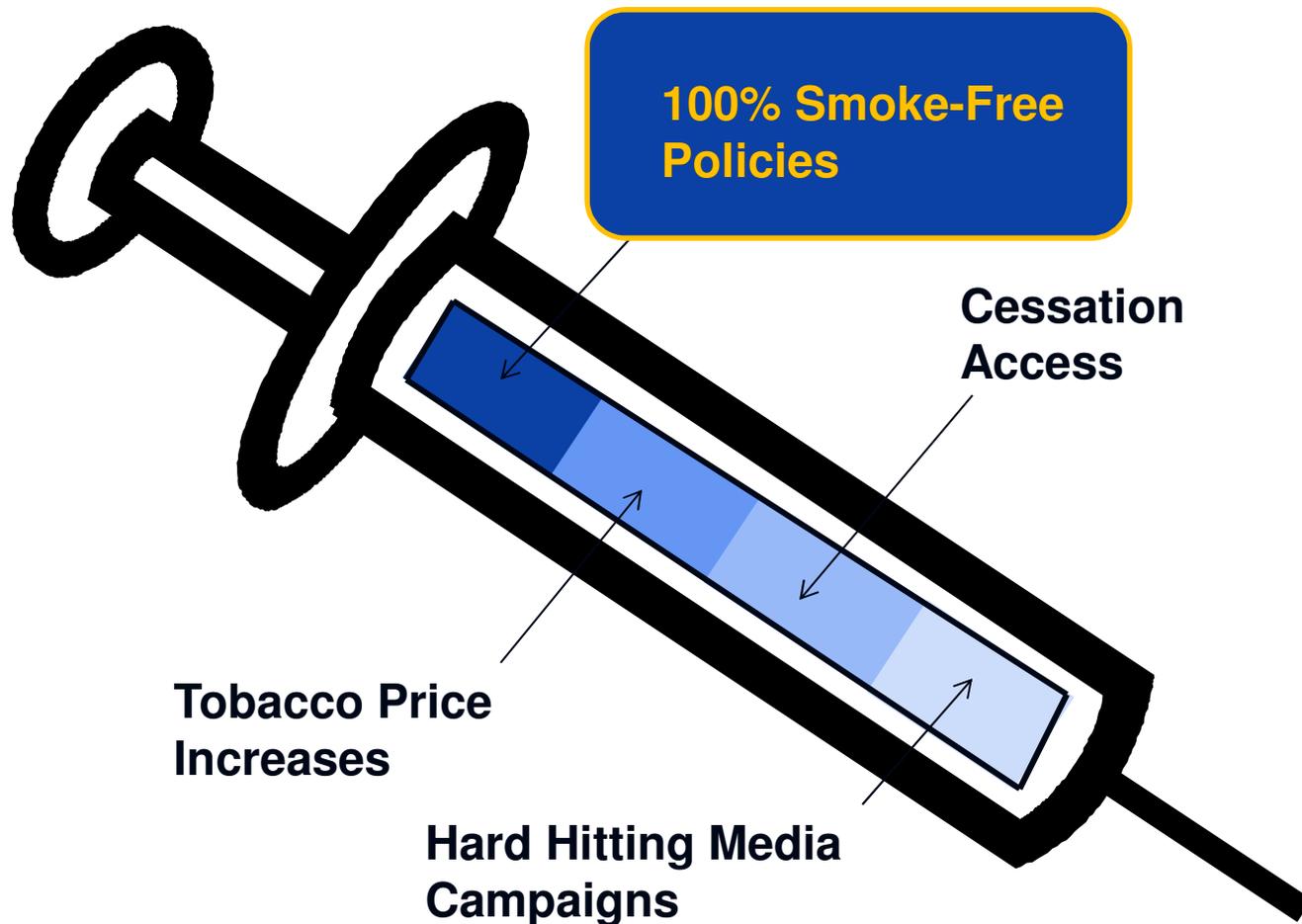
MAJOR CONCLUSION #8

“Since the 1964 Surgeon General’s report, comprehensive tobacco control programs and policies have been proven effective for controlling tobacco use. Further gains can be made with the full, forceful, and sustained use of these measures.”

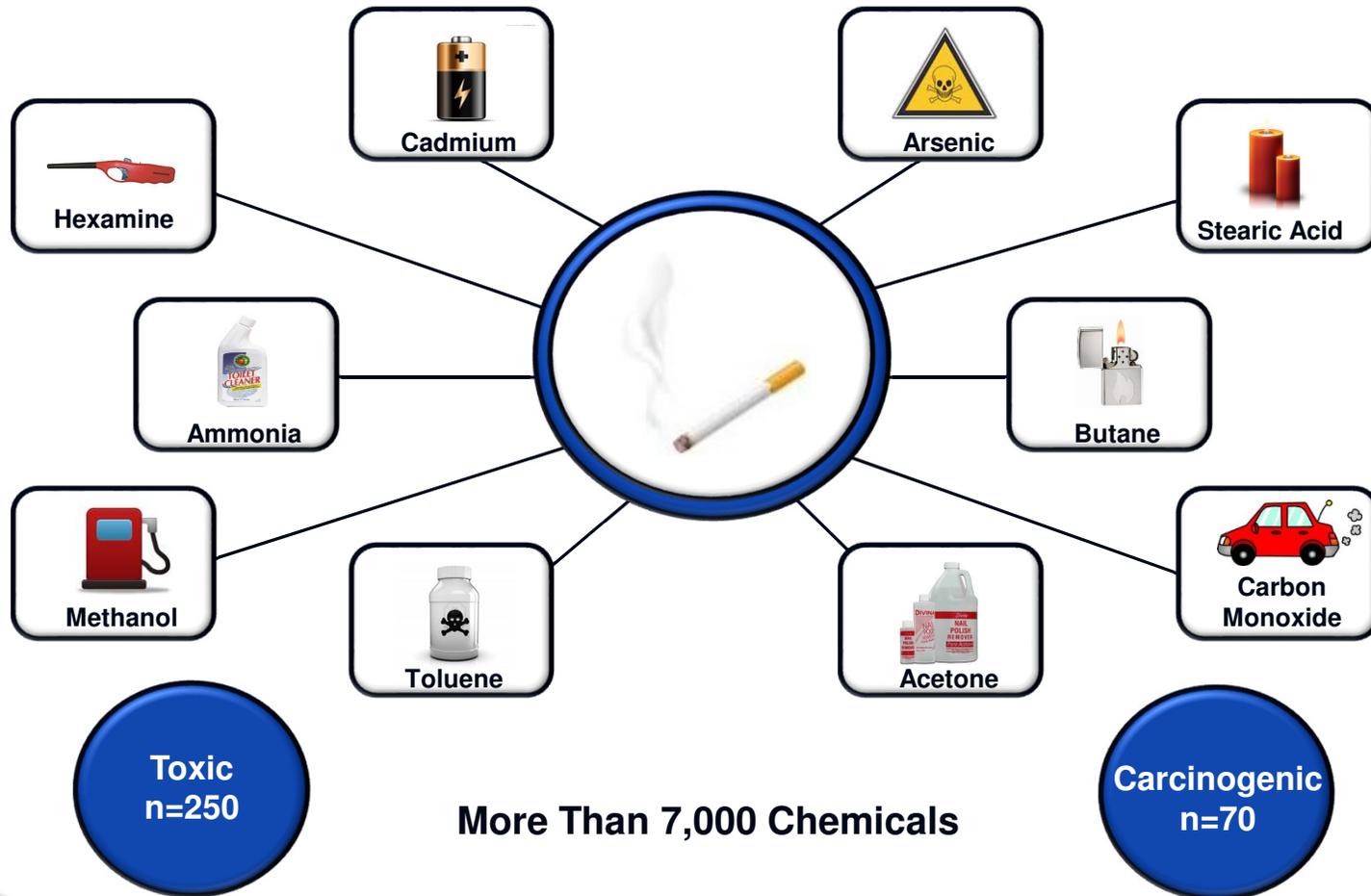
- ❑ Since 1964 tobacco control:
 - Prevented over **8 million** early deaths
 - Saved **157 million** life years
 - Increased life expectancy by **30%**



Evidence-Based Tobacco Prevention and Control Interventions

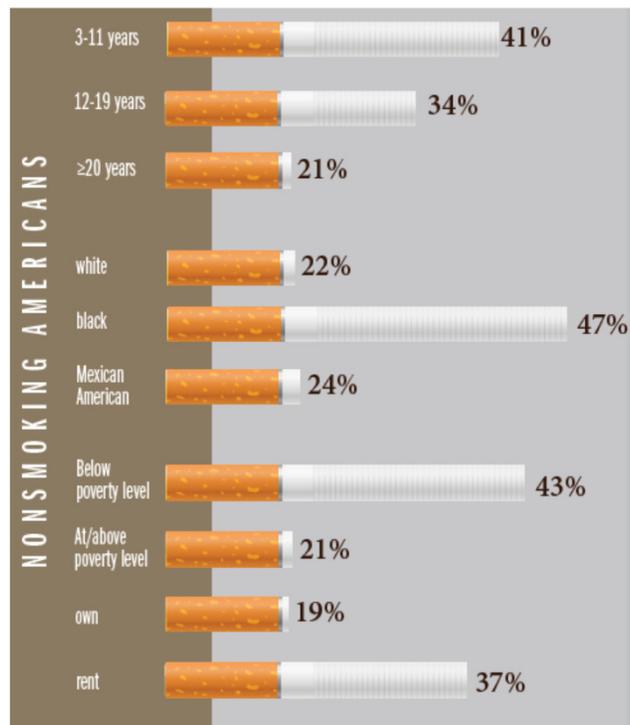


Secondhand Smoke (SHS)



Source: DHHS. *How Tobacco Smoke Causes Disease. The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General.* Rockville, MD: DHHS, CDC. 2010.

Disparities in Secondhand Smoke (SHS) Exposure



SOURCE: National Health and Nutrition Examination Survey Data 1999-2012.



SHS Exposure



Children



Black Persons



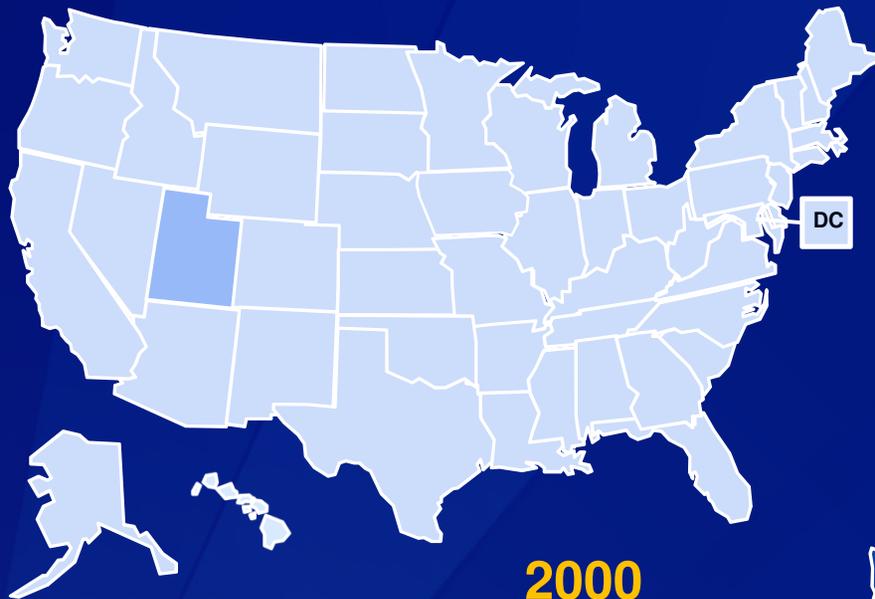
Persons in Poverty



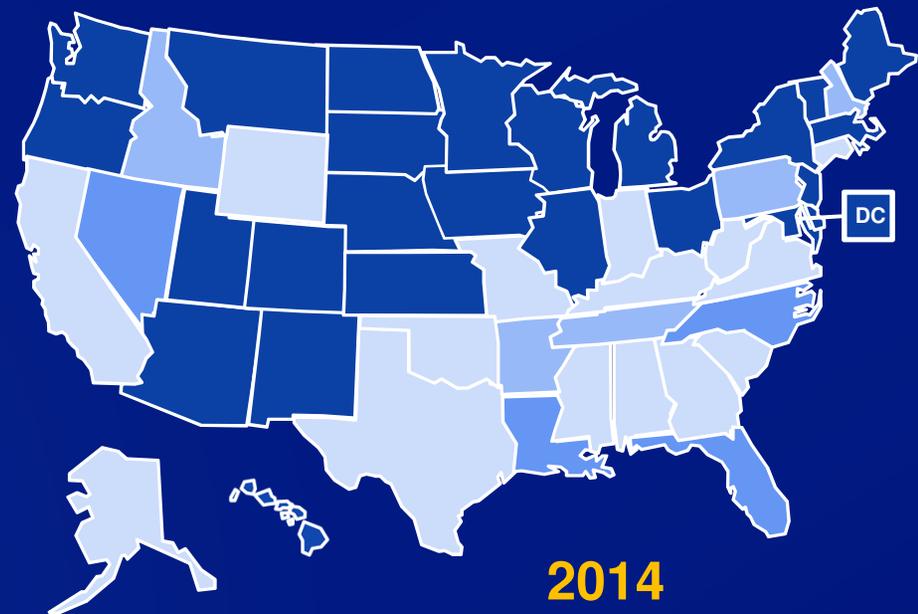
Renters

Comprehensive Smoke-Free Laws: United States

2000-2014



2000

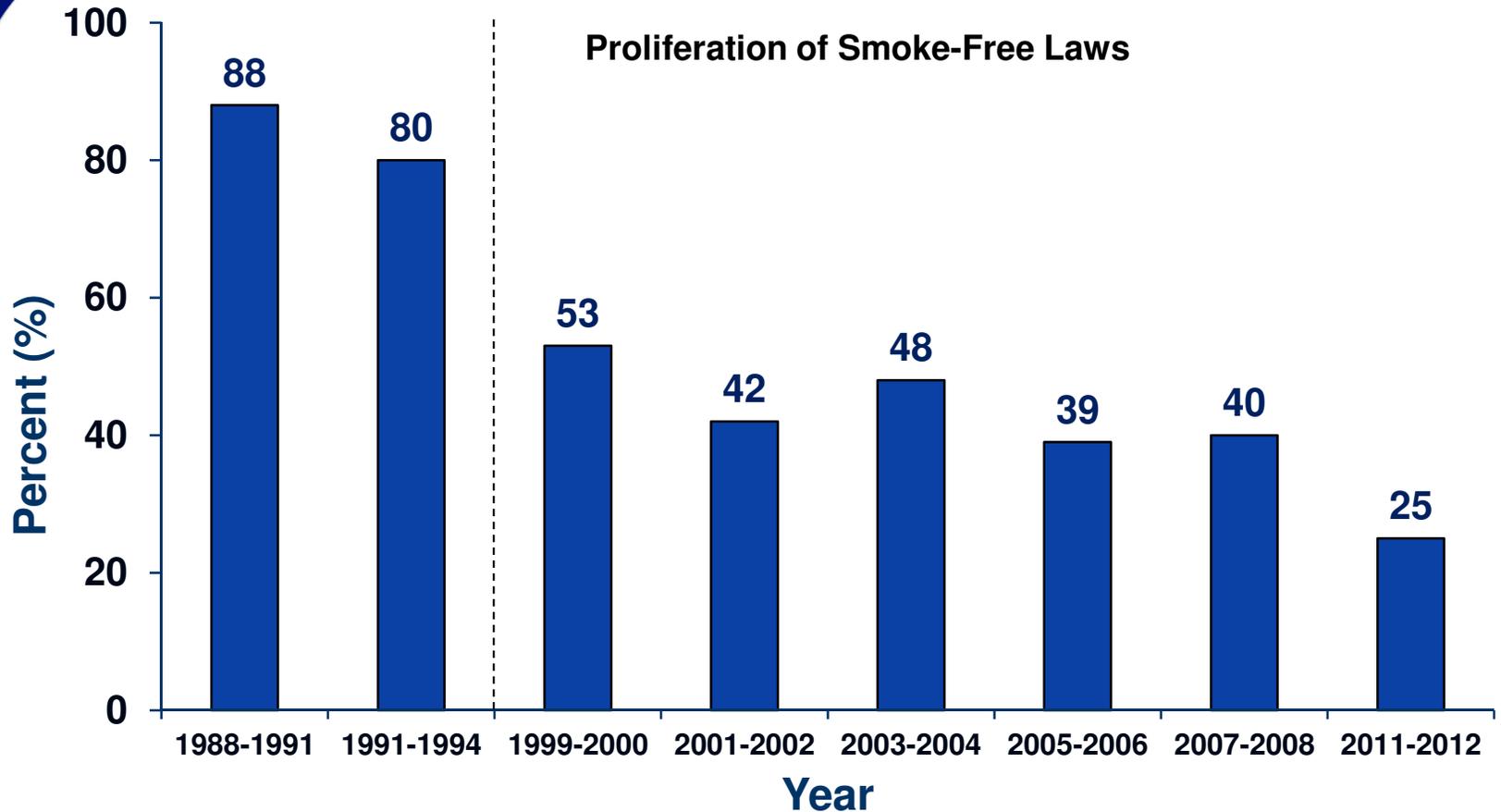


2014

Source: CDC STATE System

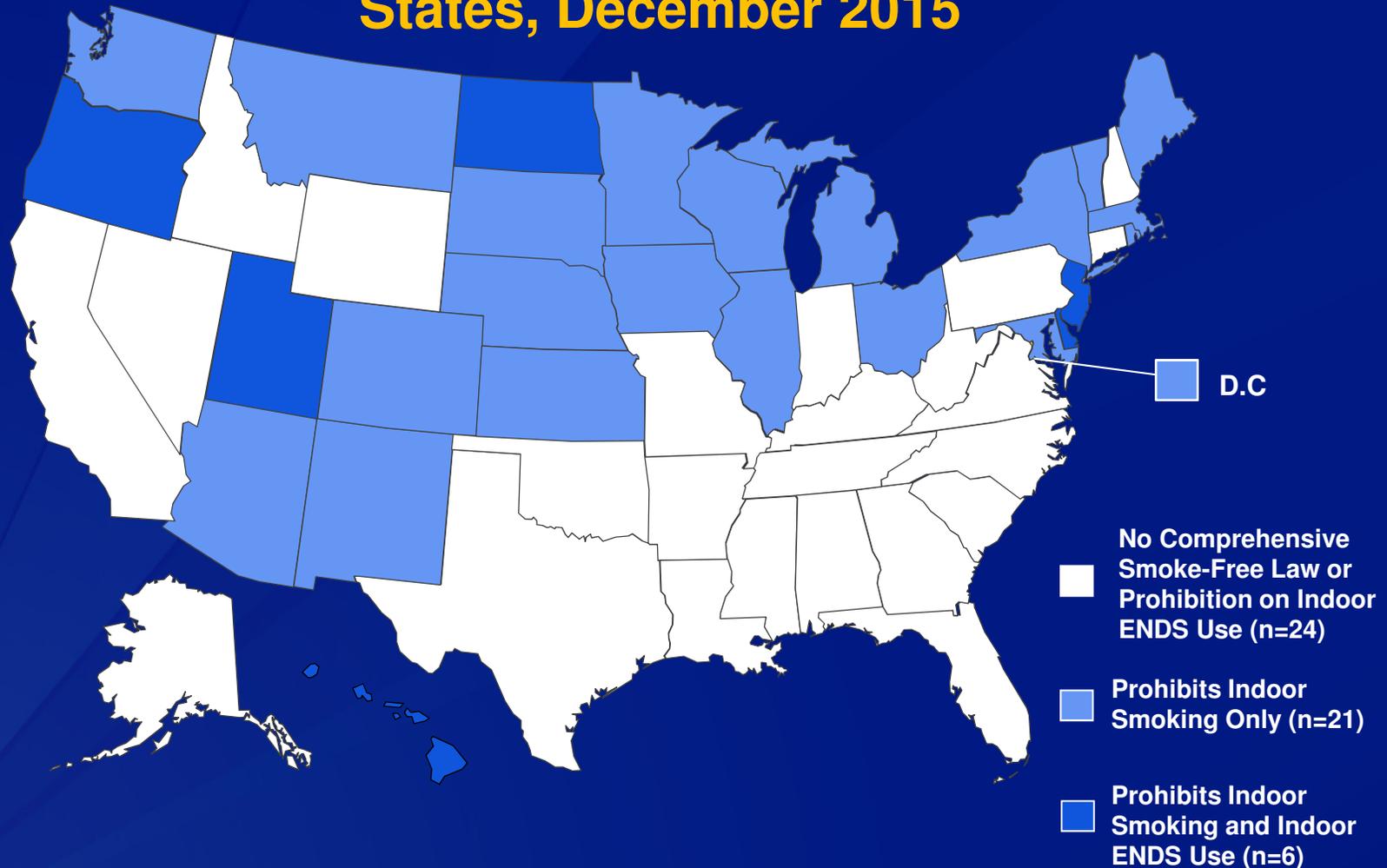
- No State Law/Exemptions/
Ventilation/Separation
- Partial Law
(One Location)
- Partial Law
(Two Locations)
- Comprehensive Law
(Worksites & Bars & Restaurants)

Percent of Non-Smoking U.S. Population Exposed* to Secondhand Smoke — NHANES, 1988-2012

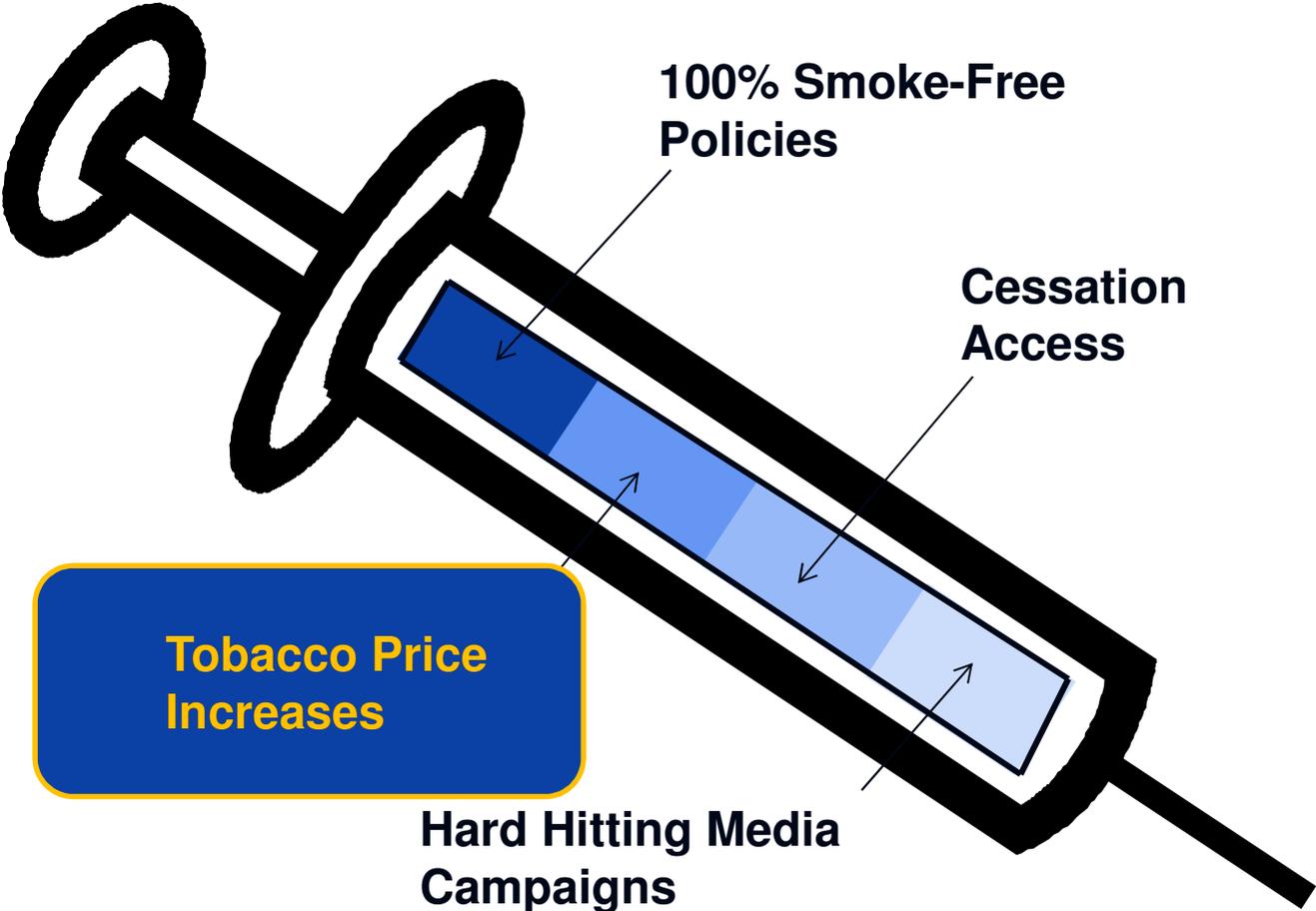


* serum cotinine ≥ 0.05 ng/ml

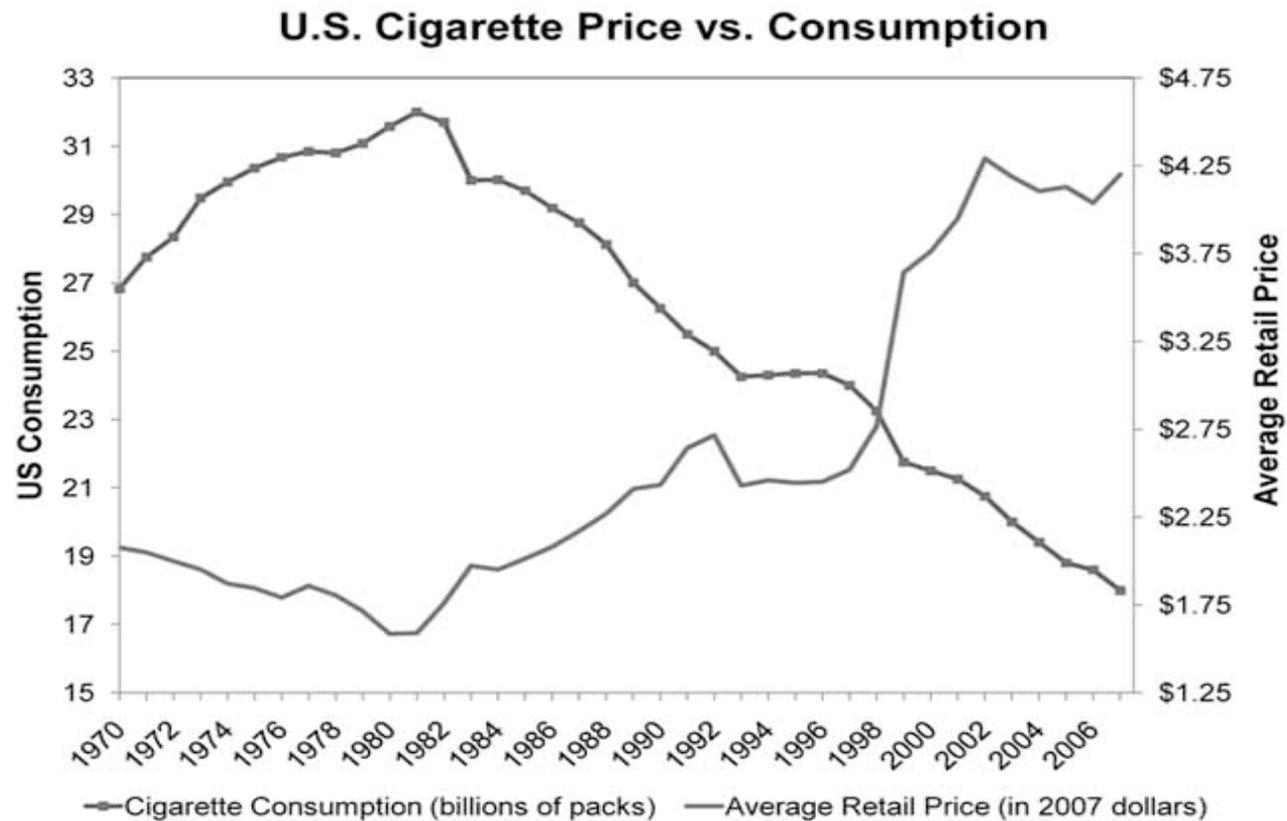
States with and without laws prohibiting smoking and use of electronic nicotine delivery systems (ENDS) in indoor areas of private worksites, restaurants, and bars - United States, December 2015



Evidence-Based Tobacco Prevention and Control Interventions



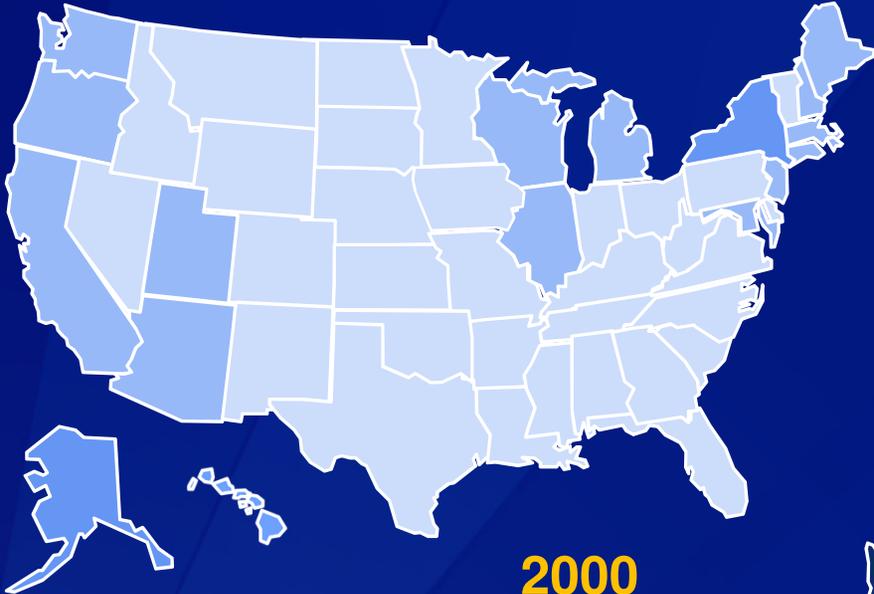
Increasing Tobacco Product Price is the Single Most Effective Method to Reduce Consumption



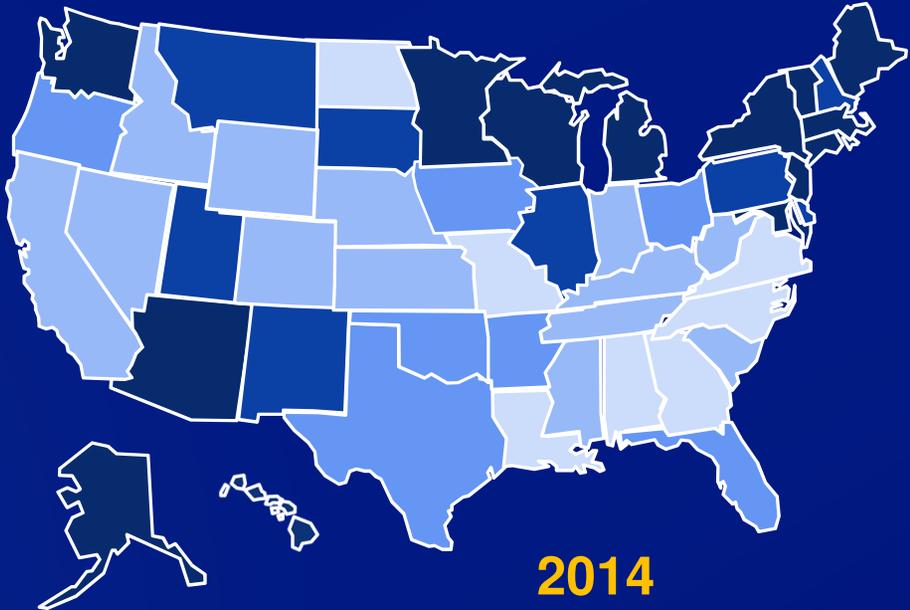
Source: Orzechowski and Walker. Tax Burden on Tobacco. 2008.

Cigarette Excise Taxes United States

2000-2014



2000

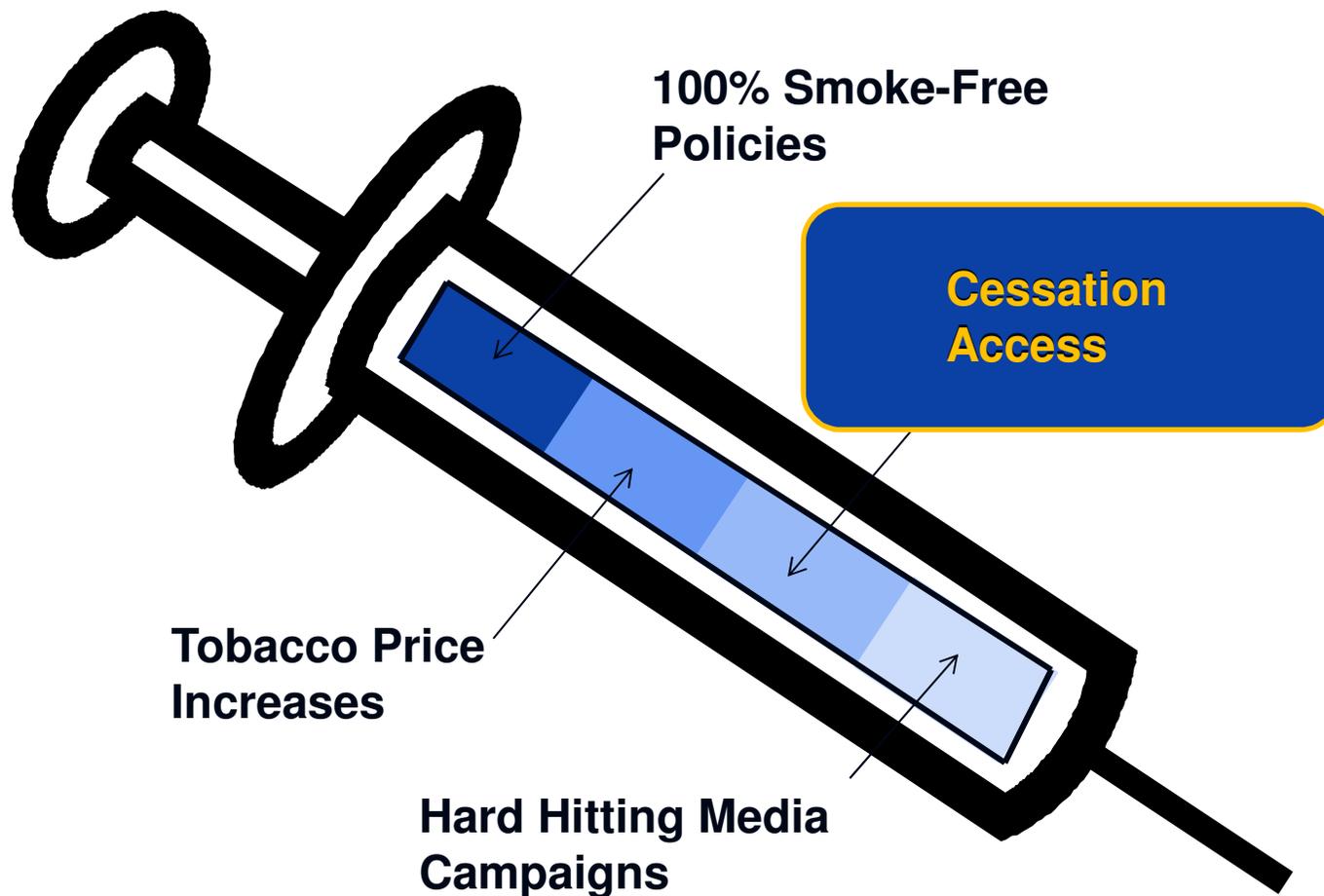


2014

Source: CDC STATE System

- Less than \$0.50
- \$0.50 to \$0.99
- \$1.00 to \$1.49
- \$1.50 to \$1.99
- \$2.00 or Greater

Evidence-Based Tobacco Prevention and Control Interventions



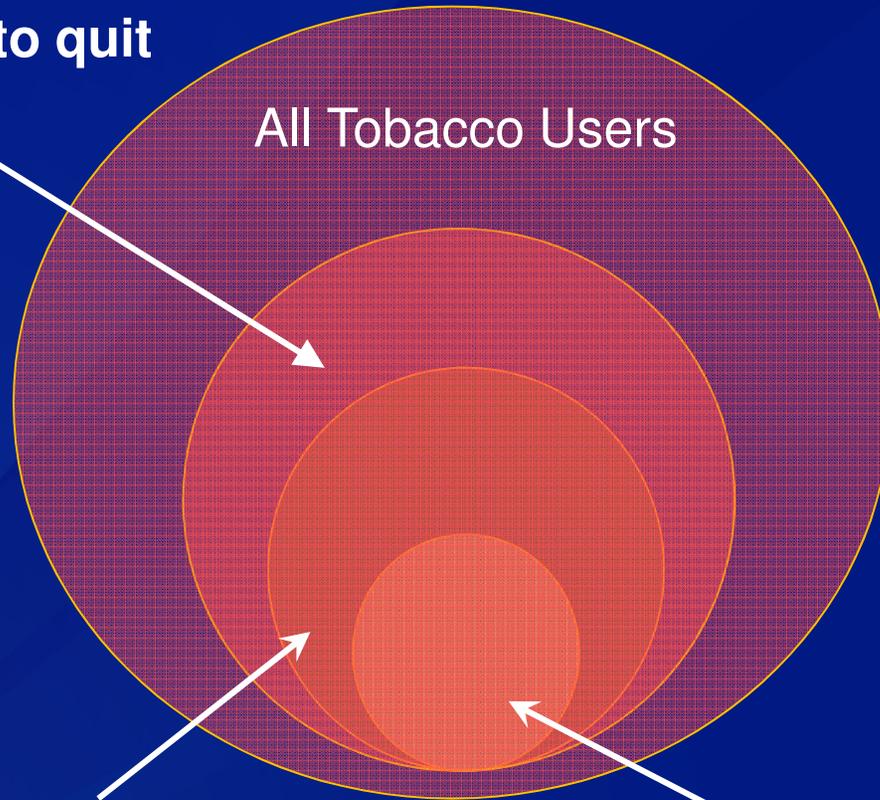
Tobacco Use in a Population

Attempting to quit

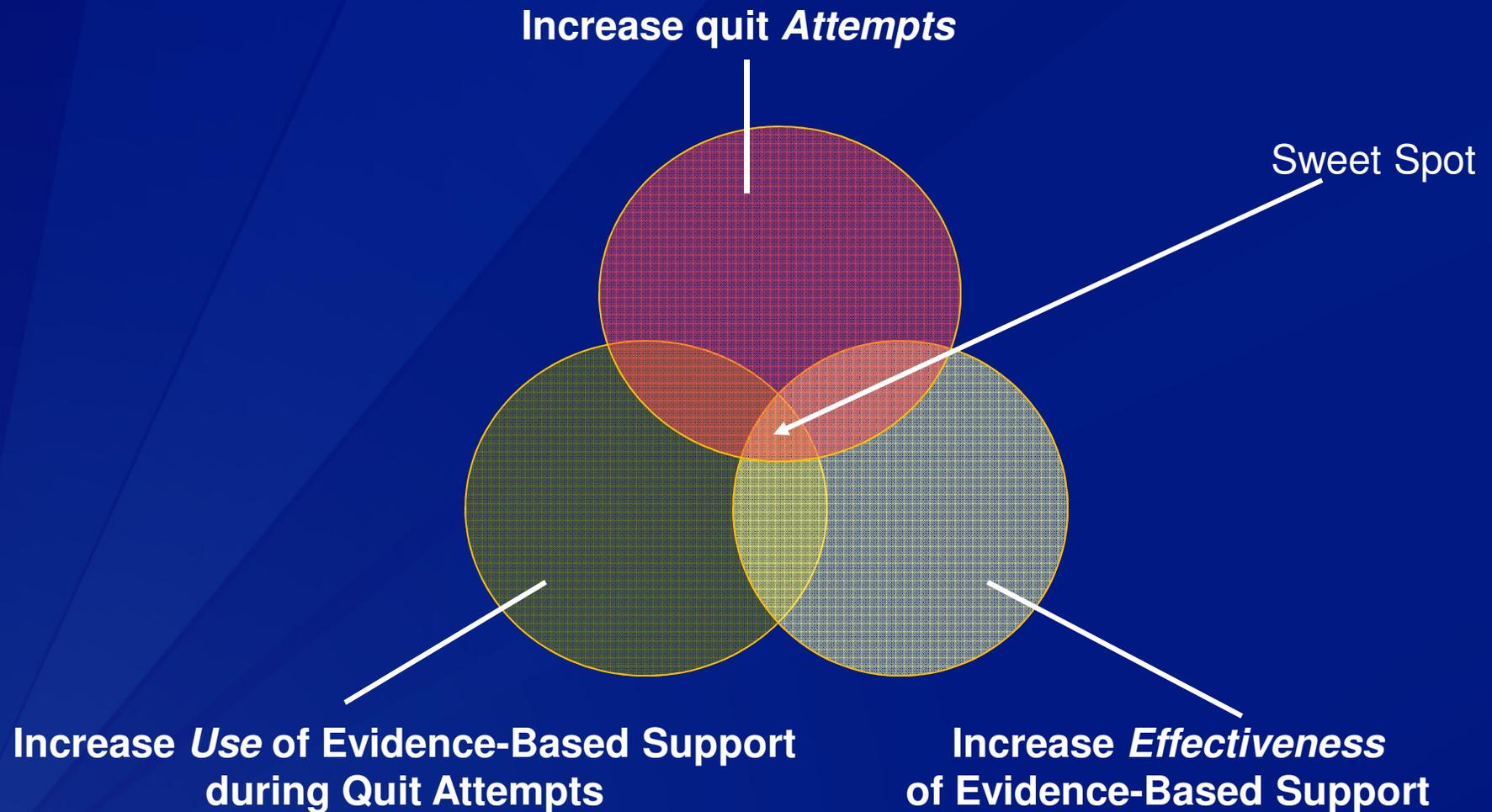
All Tobacco Users

Using some evidence-based support during quit attempts

Using highly effective evidence-based support

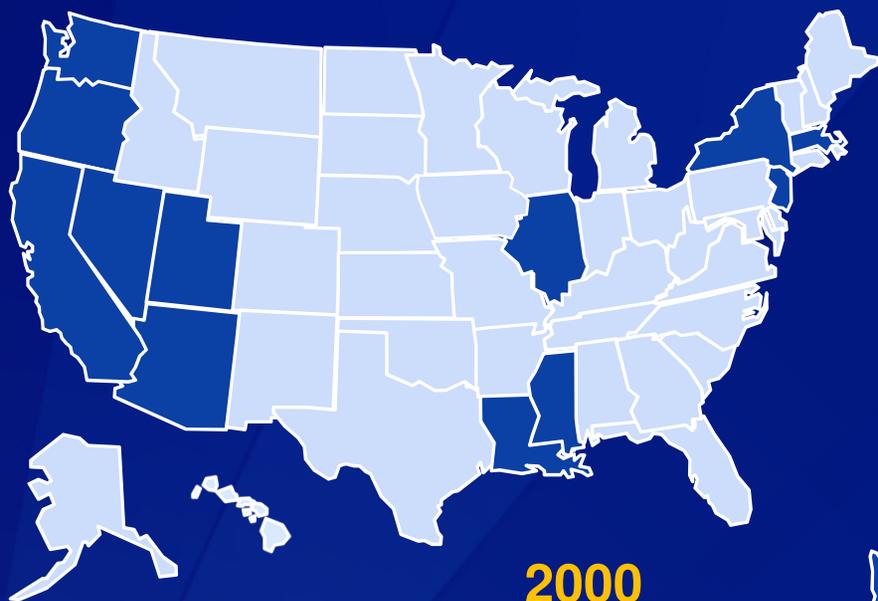


How Do We Increase Total Long-term Quits in a Population ?

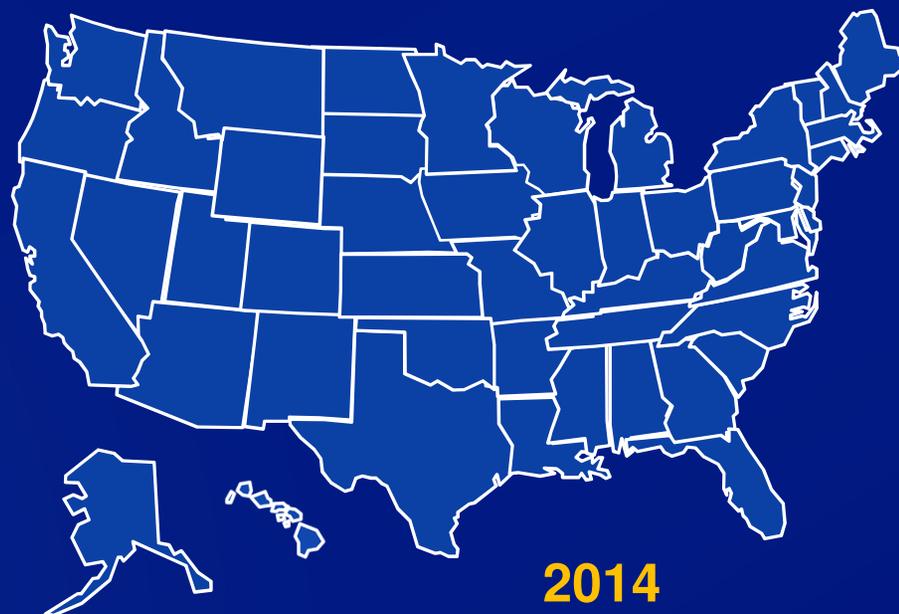


Tobacco Quitlines United States

2000-2014



2000



2014

Source: North American Quitline Consortium

□ No State Tobacco Quitline

□ State Tobacco Quitline

A Symbiotic Relationship

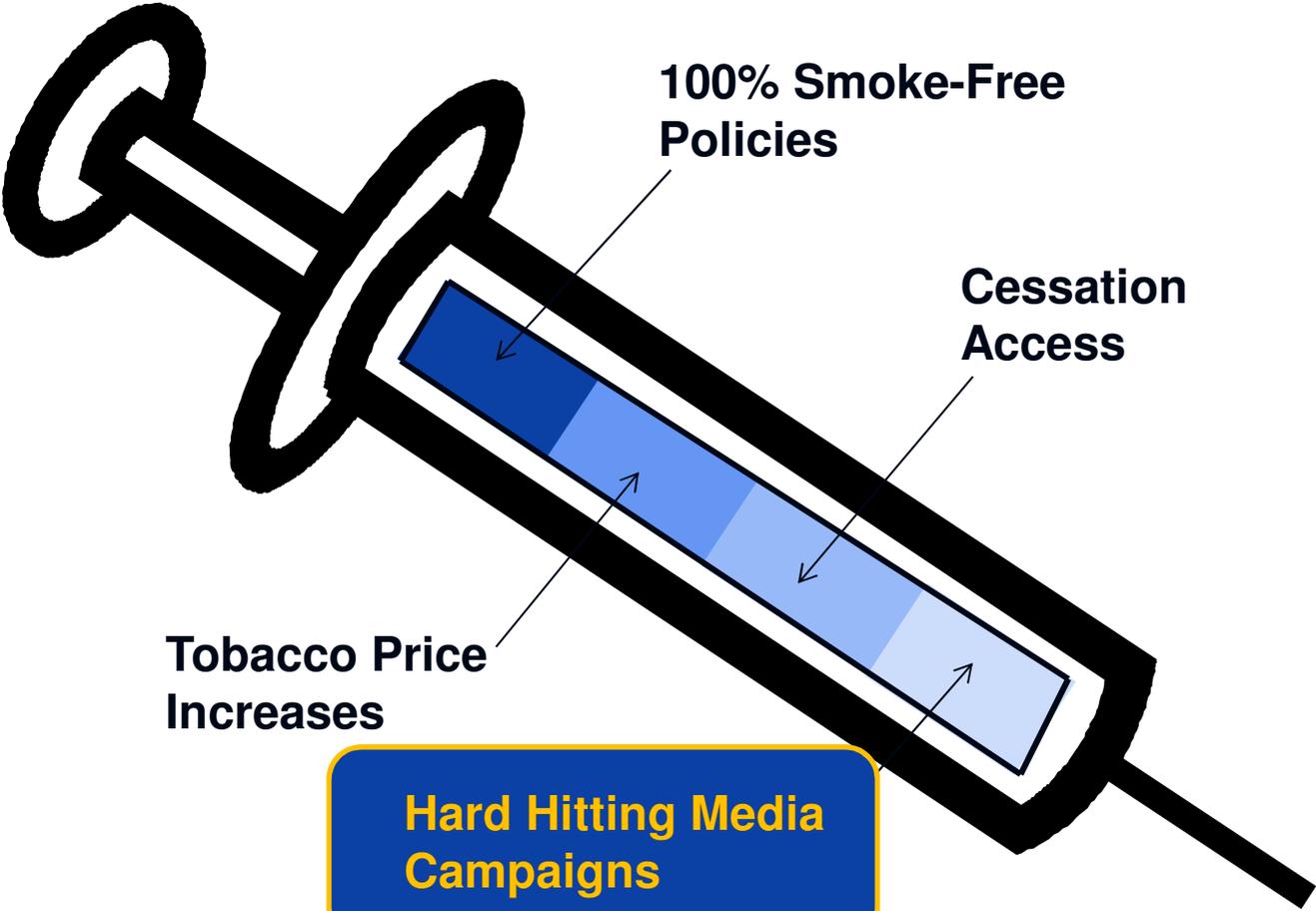
Quitlines

& Health care systems

- ❑ Health systems support
- ❑ Healthcare provider training
- ❑ In-person counseling
- ❑ Medication availability
- ❑ Quitlines
- ❑ Web/text support



Evidence-Based Tobacco Prevention and Control Interventions



Tips from Former Smokers

TIPS FROM FORMER SMOKERS



Preview: New Stories Airing July 7th
Learn more >

A TIP FROM A FORMER SMOKER

AFTER A STROKE FROM SMOKING, GET USED TO LOSING YOUR INDEPENDENCE.

Suzy, Age 62, Diagnosed at 57
New York, Caregiver



Smoking causes immediate damage to your body. For Suzy, it triggered blood clots that caused her stroke. You can quit. For free help, call 1-800-QUIT-NOW.



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
www.cdc.gov/tips

A TIP FROM A FORMER SMOKER

RECORD YOUR VOICE FOR LOVED ONES WHILE YOU STILL CAN.

Terrie, Age 52
North Carolina



Smoking causes immediate damage to your body. For Terrie, it gave her throat cancer. You can quit. For free help, call 1-800-QUIT-NOW.



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
www.cdc.gov/tips

A TIP FROM A FORMER SMOKER

ALLOW EXTRA TIME TO PUT ON YOUR LEGS.

Brandon, Age 30, Diagnosed at 28
North Dakota



Smoking causes immediate damage to your body. For Brandon, it caused Buerger's disease, which cut off blood flow and led to amputation. You can quit. For free help, call 1-800-QUIT-NOW.



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
www.cdc.gov/tips

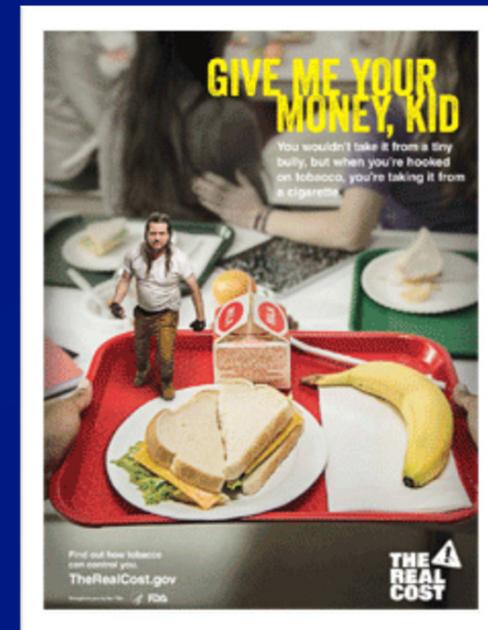
U.S. Media Campaigns: Tips, Truth, The Real Cost



CDC

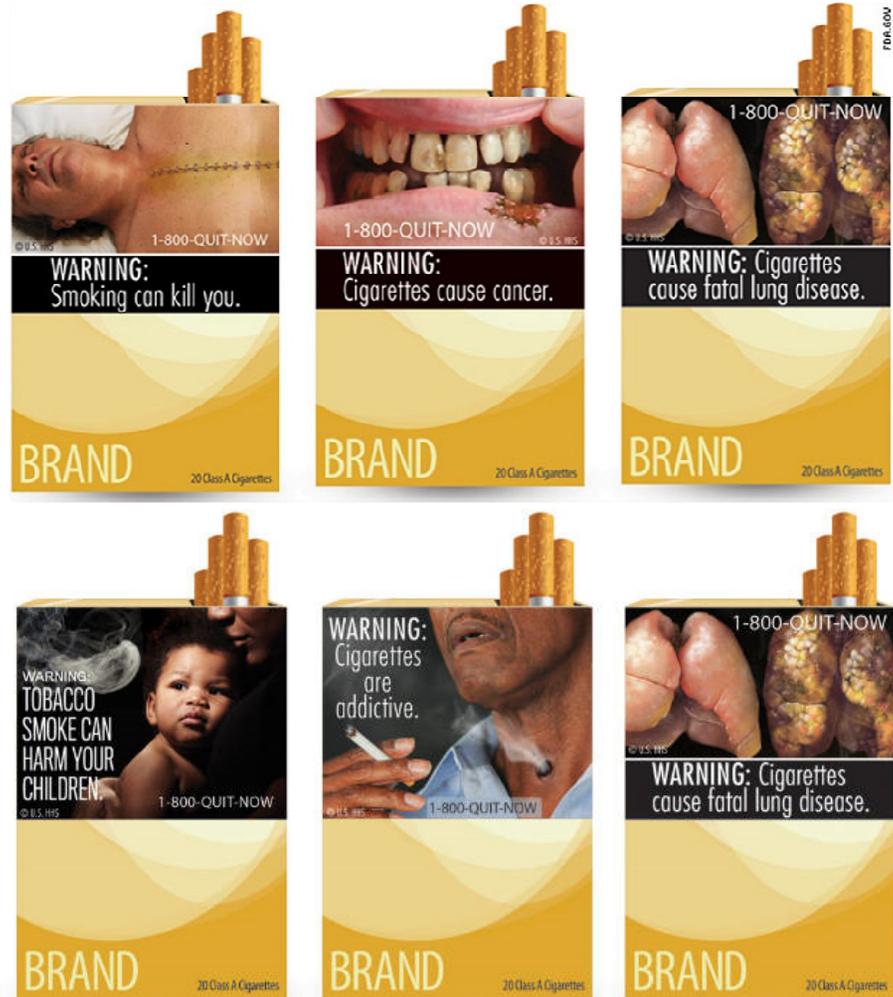


Legacy

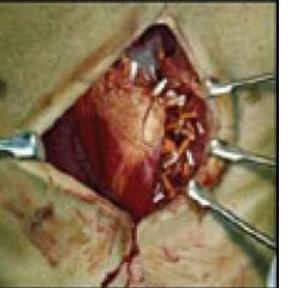


FDA

Graphic Warning Labels: United States (Proposed)

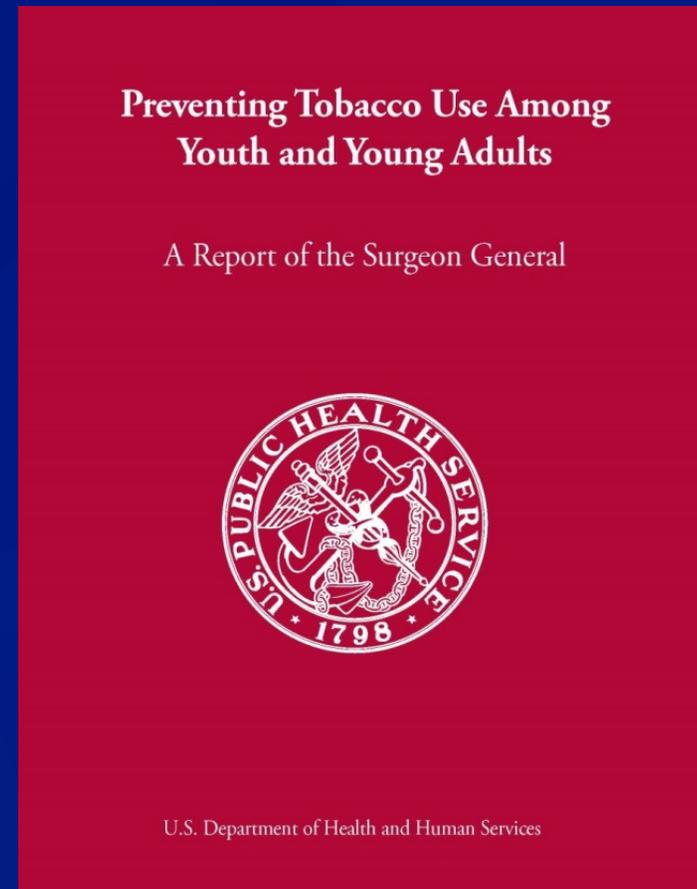


Graphic Warning Labels: Brazil

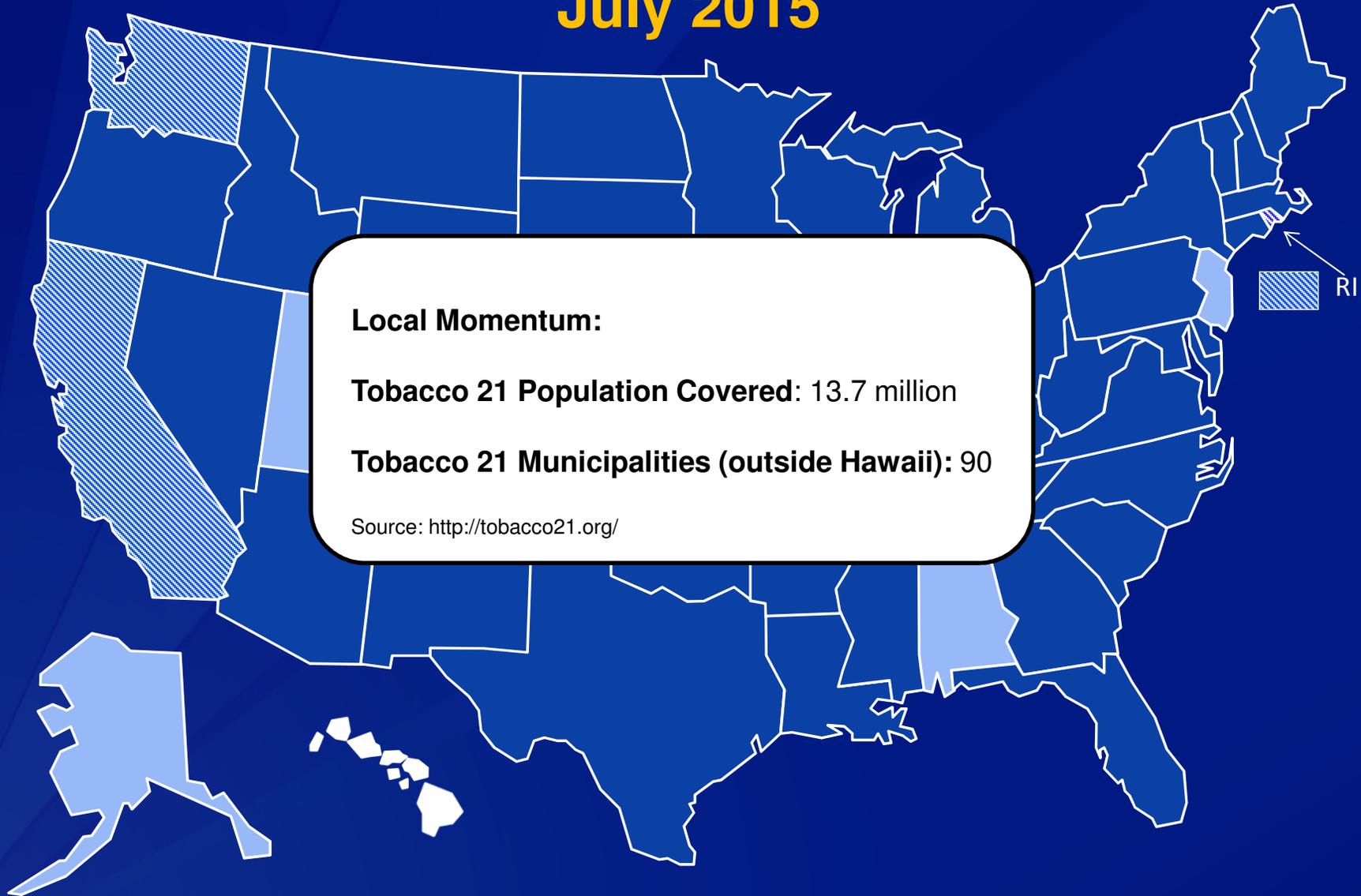
<p>VÍTIMA DESTA PRODUTO</p> 	<p>HORROR</p> 	<p>PERIGO</p> 	<p>GANGRENA</p> 	<p>INFARTO</p> 
<p>O Ministério da Saúde alerta: Este produto intoxica a mãe e o bebê, causando parto prematuro e morte.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>	<p>O Ministério da Saúde alerta: Este produto causa envelhecimento precoce da pele.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>	<p>O Ministério da Saúde alerta: O risco de derrame cerebral é maior com o uso deste produto.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>	<p>O Ministério da Saúde alerta: O uso deste produto estreita as artérias e dificulta a circulação do sangue.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>	<p>O Ministério da Saúde alerta: O uso deste produto causa morte por doenças da coronária.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>
<p>PRODUTO TÓXICO</p> 	<p>IMPOTÊNCIA</p> 	<p>SOFRIMENTO</p> 	<p>MORTE</p> 	<p>FUMAÇA TÓXICA</p> 
<p>O Ministério da Saúde alerta: Este produto contém substâncias tóxicas que levam ao adoecimento e à morte.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>	<p>O Ministério da Saúde alerta: O uso deste produto diminui, dificulta ou impede a ereção.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>	<p>O Ministério da Saúde alerta: A dependência da nicotina causa tristeza, dor e morte.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>	<p>O Ministério da Saúde alerta: O uso deste produto leva à morte por câncer da pulmão e enfisema.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>	<p>O Ministério da Saúde alerta: Respirar a fumaça deste produto causa pneumonia e bronquite.</p> <p>PARE DE FUMAR DISQUE SAÚDE 0800 61 1997</p>

What Factors Lead to Youth Smoking?

- Exposure to ads
- Youth-resonating themes
- Low prices/price promotions
- Ease of access
- Youth-appealing flavors
- Health claims
- Ease of product use
- Smoking in movies



Minimum Age of Sale for Tobacco Products, July 2015



21



18; Considering Raising to 21



19



18

Potential Implications of Raising the Tobacco Age of Sale to 21

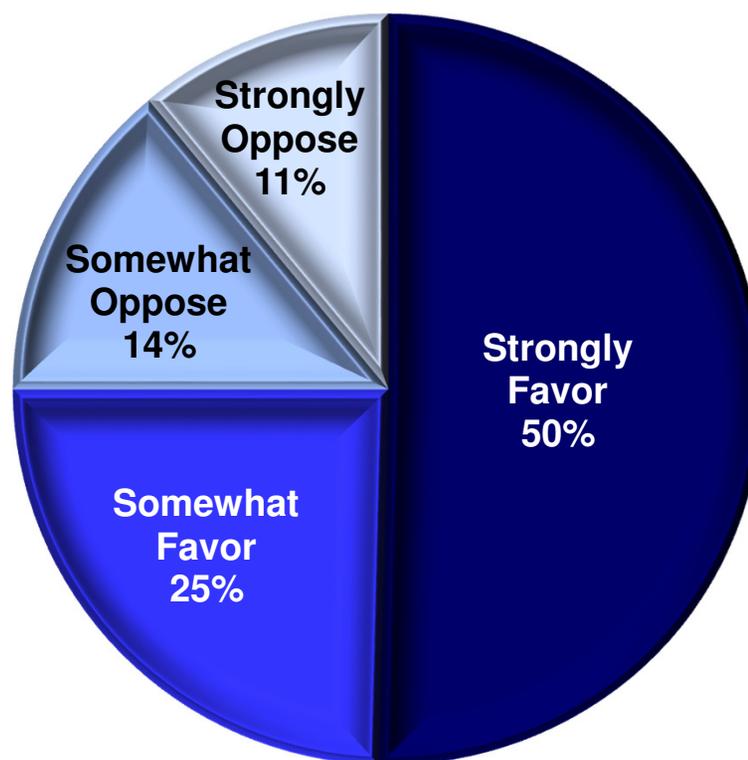
Youth Tobacco Access:

- Reduce the likelihood youth can access tobacco and provide it to peers
- Simplify compliance efforts

Youth smoking:

- Delay age of experimentation
- Reduce likelihood of transition to regular smoking
- Increase likelihood of cessation among regular users

Three-quarters of adults favor raising the minimum age of sale for tobacco to 21

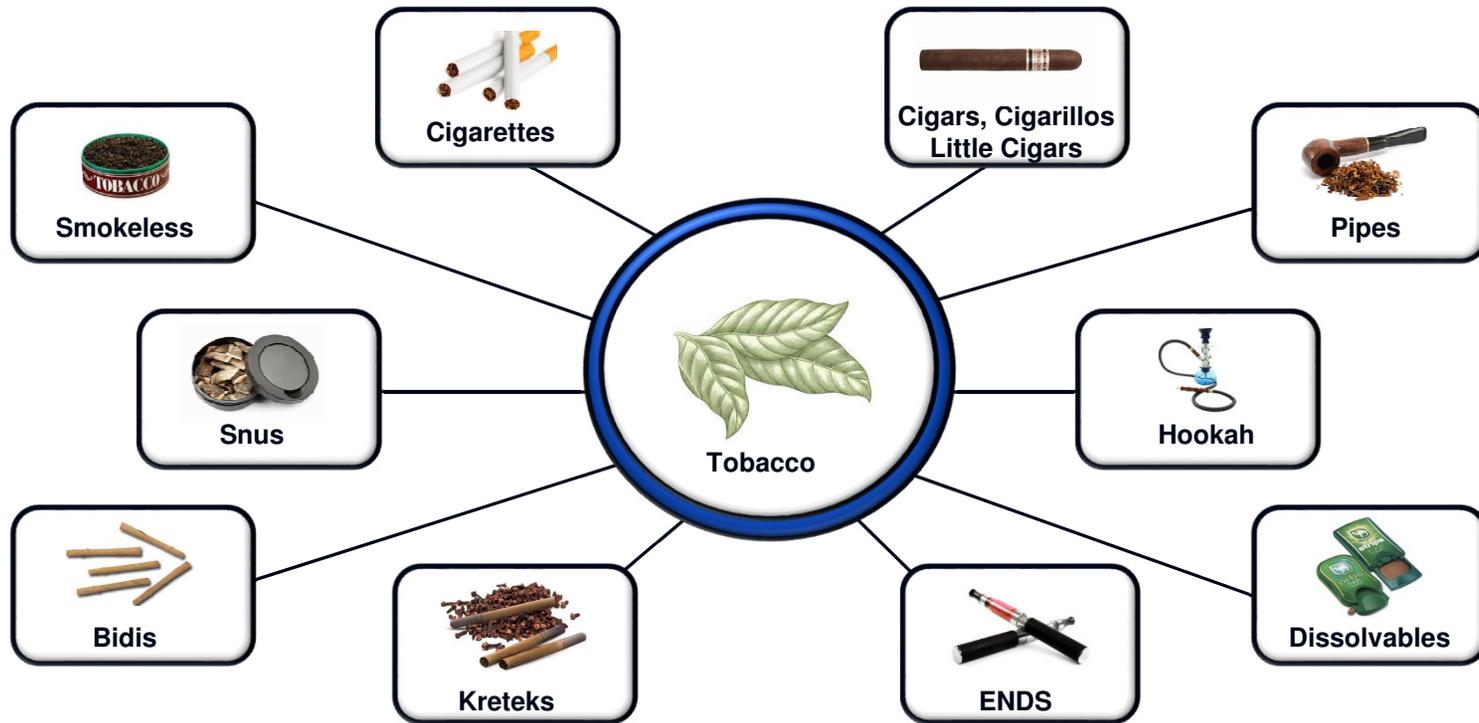


Source: King BA, Jama AO, Maynak KL, Promoff GR. Attitudes toward raising the minimum age of sale for tobacco among U.S. adults. *Am J Prev Med.* 2015 June. Epub ahead of print.

3

Considerations and Conclusions

Tobacco Products



Family Smoking Prevention and Tobacco Control Act

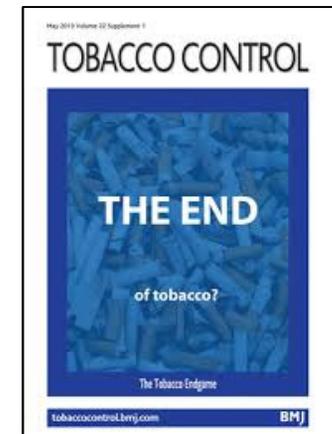
- Signed into law on June 22, 2009
- Granted FDA authority to regulate tobacco
- Enhances the ability to intensify policy to reduce tobacco industry influence
 - Manufacturing
 - Marketing
 - Sale



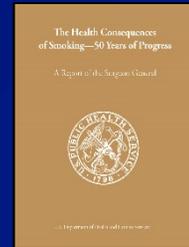
Photo: AFP/GETTY

The End Game

- Faced with the challenge of achieving a vision of a society free of tobacco-related death and disease, a discussion has begun within the field of tobacco control about what has come to be called the tobacco “end game”.
- The literature considers strategies that could be used, in addition to the expanded implementation of proven tobacco control interventions, to:
 - Accelerate declines in the use of cigarettes and other combustible tobacco products; and
 - End the tobacco epidemic.



“A defective and unreasonably dangerous product”



MAJOR CONCLUSION #9

“The burden of death and disease from tobacco use in the United States is overwhelmingly caused by cigarettes and other combusted tobacco products; rapid elimination of their use will dramatically reduce this burden.”

□ End Game scenarios for the U.S. include:

▪ FDA regulation to:

- Reduce nicotine content to make cigarettes non-addictive
- Make some or all tobacco products less appealing
- Establish standards for toxicant levels in tobacco products

▪ Sales restrictions

- Including local and state product category bans

2014 SGR Recommendations

As End Game Strategies are Developed....



- ❑ Sustain **high-impact media campaigns** such as *Tips* for 12 months/year for 10+ years
- ❑ Raise **excise taxes** – at least \$10 per pack is most effective
- ❑ Fulfill opportunity of the ACA to provide access to barrier-free, proven tobacco use **cessation treatment**
- ❑ Expand **cessation in primary and specialty care settings**

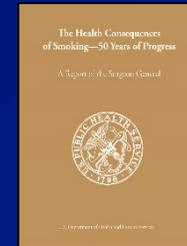
2014 SGR Recommendations



As End Game Strategies are Developed....

- ❑ Effectively implement FDA's authority for tobacco product **regulation** to reduce product addictiveness and harmfulness
- ❑ Expand **tobacco control and prevention research** to increase understanding of the ever changing landscape
- ❑ Fully fund **comprehensive statewide tobacco control** programs at CDC-recommended levels
- ❑ Extend comprehensive **smokefree indoor protections** to 100% of the U.S. population

Tobacco Industry's Role



MAJOR CONCLUSION #2

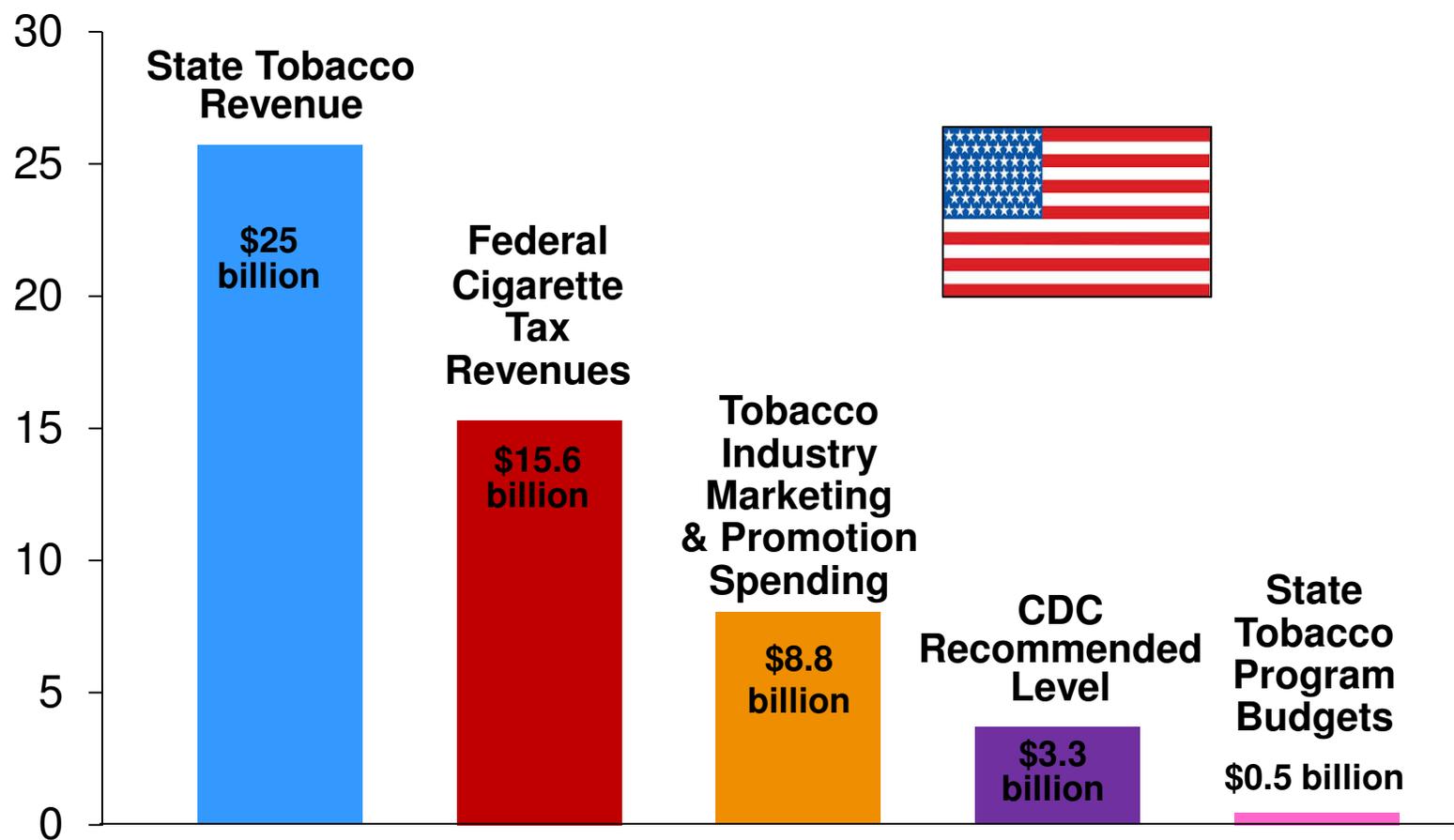
“The tobacco epidemic was initiated and has been sustained by the aggressive strategies of the tobacco industry, which has deliberately misled the public on the risks of smoking cigarettes.”



Hon. Gladys Kessler

Source: US Department of Health and Human Services. The health consequences of smoking—50 years of progress: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, CDC; 2014.

Tobacco Industry is Outspending Prevention Efforts 18:1



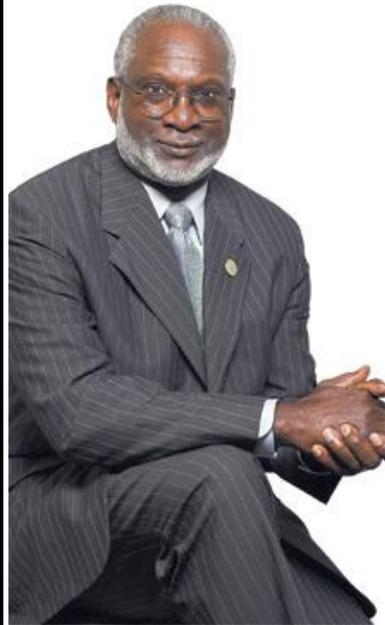
Source: Campaign for Tobacco Free Kids, Federal Trade Commission, 2012 Tax Burden on Tobacco Report, CDC's Best Practices for Comprehensive Tobacco Control Programs.

Key Take Away Points



- ✓ Tobacco use imposes a **considerable health and economic burden** in the United States.
- ✓ The tobacco product landscape is **rapidly diversifying** and the use of emerging products is increasing among youth and adults.
- ✓ There are **proven, cost-effective** population-based interventions to combat this deadly epidemic.
- ✓ If **implemented and enforced**, these interventions can reduce tobacco-related disease, disability, and death.

How to End the Tobacco Epidemic



“Our lack of greater progress in tobacco control is more the result of failure to implement proven strategies than it is the lack of knowledge about what to do”

Surgeon General David Satcher, 2000

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for Chronic Disease Prevention and Health Promotion
Office on Smoking and Health

